



AMERICAN BUILDER and BUILDING AGE, with which are incorporated National Builder, Permanent Builder and the Builder's Journal, is published on the first day of each month by the

SIMMONS-BOARDMAN  
PUBLISHING CORPORATION  
105 West Adams Street  
Chicago, Ill.

NEW YORK  
30 Church Street

WASHINGTON, D. C.  
National Press Building

SEATTLE  
1038 Henry Bldg.

SAN FRANCISCO  
485 California St.

LOS ANGELES  
530 West 6th St.



Samuel O. Dunn, *Chairman of Board*; Henry Lee, *President*; Bernard L. Johnson, Robert H. Morris, Delbert W. Smith and R. E. Clement, *Vice-Presidents*; Roy V. Wright, *Secretary*; Elmer T. Howson, *Assistant Secretary*; John T. De Mott, *Treasurer*.

Subscription price in the United States and Possessions and Canada, 1 year, \$2.00, 2 years, \$3.00, 3 years, \$4.00; foreign countries, 1 year, \$4.00, 2 years, \$7.00, 3 years, \$10.00. Single copies 25 cents each. Address H. E. McCandless, Circulation Manager, 30 Church Street, New York, N.Y.

Member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulation (A. B. C.).

(A Simmons-Boardman Publication)

# AMERICAN BUILDER

and Building Age

NAME REGISTERED U. S. PATENT OFFICE AND CANADIAN REGISTRAR OF TRADE MARK

JUNE, 1938

60th Year

Vol. 60—No. 6

Publisher's Page—Building and Incomes—by Samuel O. Dunn.....	37
Editorial .....	39
Is the Boom Still Coming?	
How Much Is "High Cost" Building Propaganda Costing You?.....	40
New American Builder Campaign for Local Newspapers Featuring Big Value of Present Day Homes—Opportunity for Local Building Groups to Create Business	
Building the "World of Tomorrow".....	44
Spectacular Construction Problems Being Solved in \$150,000,000 World's Fair of 1939	
1½-Million New Homes Needed.....	47
Analysis by American Builder Charts Building Volume and Accumulated Needs	
Rental Housing Construction.....	48
First of a Series of Articles on Planning and Building Methods for Apartments, Row Houses and Large-Scale Rental Housing Projects	
Home Design Section with TruCost Figures.....	51
Week-End Retreat in Willoughby, Ohio	
Recreation House for Lakeside Home	
Small Colonial Home at Glastonbury, Conn.	
Related Homes Planned for Light, Air and View	
Four Summer Cottage Designs at Lake Mohawk	
Dry-Wall Homes for \$43.85 Per Month—	
David Swope Houses, Westchester County	
Modern Chicago Cottage with Plywood Interior	
California Bungalow of 7 Rooms	
"Williamsburg House" at Port Washington, N.Y.	
TruCost Figures for American Builder Homes.....	67
TruCost—How American Builder's Estimating System Prevents Expensive Errors.....	68
A. W. Holt Discusses New Features of TruCost Figures Following Last Month's Introduction	
Air Conditioning in Doctors' Neighborhood Offices Adds Comfort.....	72
Designs for Small Professional Building and for Doctor's Wing in Home	
Modern Service Station of Unusual Design.....	74
Enamel and Glass Surfaces Give Clean Appearance and Plenty of Light in Norwich, Conn., Building	
How to Finish Douglas Fir Plywood.....	76
Roy F. Wildman, Painting Expert, Discusses Fir Plywood Finishing	
Stainless Steel Perfected for Building.....	80
New Finish for 1939 Western World's Fair.....	82
New Products Department.....	84
News of the Month.....	96
Letters from Readers.....	104
Catalogs Reviewed.....	114
Index to Advertisers.....	117

BERNARD L. JOHNSON  
Editor

JOSEPH B. MASON  
Eastern Editor  
LYMAN M. FORBES  
Research Editor

ROBERT H. MORRIS  
Business Manager

R. E. SANGSTER  
Associate Editor  
A. W. HOLT  
Contributing Editor

ADVERTISING: R. E. CLEMENT, W. F. COLEMAN, L. B. CONAWAY, J. S. CRANE, J. C. JONES, J. R. PARROTT, E. J. REICH, D. W. SMITH, C. J. WAGEMAN

FIELD STAFF: L. O. ANDERSON, V. L. ANDERSON, C. L. CONLEY, C. R. W. EDGCUMBE, J. H. FREE, CHARLES R. HARTUNG, A. W. HOLT

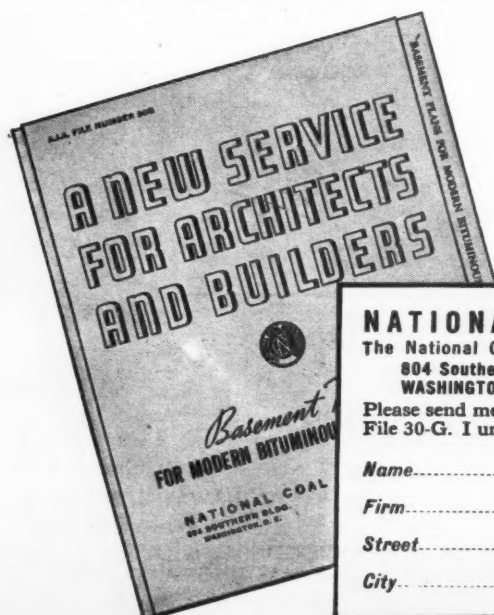


## Make Changing Easy- BECAUSE YOU PLANNED THAT WAY

● When floors are cold—when room temperatures fluctuate erratically—when fuel costs prove unreasonably high, people turn to dependable bituminous coal or coke for steady warmth at low cost. That has been true since piped fuels were first used. It is happening more and more frequently now that automatic firing with bituminous coal is so dependable and so inexpensive.

No house, no matter what the fuel fad of the moment may be, should be built without proper provision for using bi-

tuminous coal or coke, now or eventually. It's easiest and cheapest to make such provision when the house is built. The fundamental principles of designing for bituminous coal or coke heating are found in our free booklet, "*Basement Plans for Modern Bituminous Coal Heating*," A.I.A. File No. 30-G. It also contains plans and isometric drawings of six typical modern basements planned for bituminous coal heating and detailed drawings of modern enclosed coal bins. Send for your free copy today.



## NATIONAL COAL ASSOCIATION

Copyright—National Coal Association, 1938

### NATIONAL COAL ASSOCIATION

The National Organization of Bituminous Coal Operators  
804 Southern Bldg. 307 N. Michigan Ave.  
WASHINGTON, D. C. CHICAGO, ILLINOIS

Please send me a set of "Six Typical Basement Designs for Modern Bituminous Coal Heating," A. I. A. File 30-G. I understand there is no obligation involved.

Name.....  
Firm.....  
Street.....  
City..... State.....

AB-6

# PUBLISHER'S PAGE

## Building and Incomes

**A**LL the indexes usually relied on indicate that the country should now be in the midst of a building "boom." The "surplus" of housing that existed eight years ago has been converted into a great deficit by the lack of construction during the long depression. Residential building has been maintained much better during the last year's "recession" than total business. In the first one-third of 1938 the nation's *business as a whole* was as small as it averaged in the first one-thirds of 1932, 1933 and 1934. On the other hand, in the first one-third of 1938 residential construction was almost *three times as large* as it averaged in the first one-thirds of 1932, 1933 and 1934.

Residential construction has held up so much better during the last year's "recession" than most business because of the enormous need for new building and because of the recent revision of the Federal Housing Act making it easier to borrow for this purpose.

**B**UT residential construction is still occurring at an annual rate only about one-third as great as before the depression. Why is this true, when it is possible to get "More House for the Money?"

Whether people build depends not only on how much they can get for the money, but on *how much money they have to spend*—principally upon their present and prospective incomes. The principal deterrent of building is the *failure of the national income to recover*.

The national income—the total income produced for themselves by the entire people—averaged 80 billion dollars annually in the five years ending with 1930. It declined to an average of less than 50 billions in the five depression years ending with 1935. It increased to an average of

63 billions in the two years 1936-1937; but, at the present rate, it will again be down to only 50 billions in 1938.

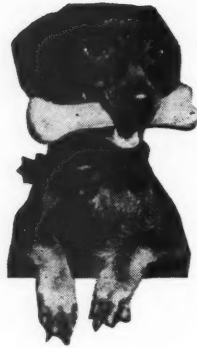
This country has had *five* great depressions within the last century—the last previous one beginning in 1893. Within eight years after the beginning of each of the preceding great depressions, not only had recovery been completed, but the national income had become *much larger than ever before*. More than eight years after the beginning of *this* depression the national income is still 30 billion dollars less annually—40 per cent less—on the average about *\$1,200 annually per family* less—than during the five years before this depression began.

**W**HY the difference? Answer that question and you will tell why building has not recovered. Because the principal reason why building has not recovered is that *the incomes of the millions who want to build or buy homes have not recovered*.

Why did they recover before? Why have they not recovered now? One thing is certain—the policies prevailing during the previous four great depressions in this country that were soon followed by complete recovery and large increases in the national income, and in the incomes of all families, were widely different from the policies that have prevailed during the *present depression*. And the principal difference has been in *government policies affecting business*. If you believe these policies have been sound, how do you explain the fact that recovery occurred soon after previous depressions and has not occurred this time? If you believe these policies have been unsound, what are you doing to get them changed?

*Samuel O. Dunn*

SIMMONS-BOARDMAN PUBLISHING CORPORATION: SAMUEL O. DUNN, CHAIRMAN OF THE BOARD; HENRY LEE, PRESIDENT; BERNARD L. JOHNSON, ROBERT H. MORRIS, DELBERT W. SMITH AND ROBERT E. CLEMENT, VICE-PRESIDENTS; ROY V. WRIGHT, SECRETARY; E. T. HOWSON, ASSISTANT SECRETARY; JOHN T. DE MOTT, TREASURER. EXECUTIVE AND EDITORIAL OFFICES: 105 WEST ADAMS STREET, CHICAGO; 30 CHURCH STREET, NEW YORK CITY



## DRY AS A BONE

### WHEN THE FOUNDATION'S CONCRETED WITH 'INCOR' 24-HOUR CEMENT

**O**LD-FASHIONED cellars—damp, musty catch-alls—are a thing of the past; today, the public wants dry, livable basements. And that means bone-dry concrete in foundations and floors.

All contractors know that nothing takes the place of sound job practice in making and curing the concrete. For concrete that is properly proportioned, well mixed, carefully placed and thoroughly cured is strong, dense, watertight—of itself and by itself.

Curing is often the “nigger-in-the-woodpile”—because job conditions often make it impossible to keep concrete wet 7 to 10 days until thoroughly cured. And that is why ‘Incor’ 24-Hour Cement makes it ever so much easier to get strong, dense, watertight concrete:

Because ‘Incor’, a more thoroughly processed Portland cement, combines with water 5 times as fast, so it gives you watertight curing in one-fifth the usual time.

In other words, ‘Incor’ gives you the same kind of quality concrete that Lone Star Cement has been producing for more than a quarter



century; only difference is that ‘Incor’\* cures faster, is ready to use sooner.

Example: Ed F. Taylor, contractor, used ‘Incor’ for foundation in residence of Talbot Patrick, publisher Daily News-Argus, Goldsboro, N. C., because “it’s the cheapest and surest way to get watertight concrete.” Write for copy of “Watertight Concrete.” Lone Star

Cement Corporation, Room 2228, 342 Madison Avenue, New York. \*Reg. U.S. Pat. Off.

# LONE STAR

## CEMENT CORPORATION

MAKERS OF LONE STAR CEMENT...‘INCOR’ 24-HOUR CEMENT

# AMERICAN BUILDER

## AND BUILDING AGE

### Is the Boom Still Coming?

**S**INCE the spring of 1935 building industry forecasters, almost without exception, have been predicting a boom in home building. The ever increasing shortage of good housing units, the advancing rentals, and the abundance of cheap mortgage money—three potent factors that have characterized the recent and the present home building situation—have seemed to provide ample grounds for such an expectation.

This publication has been optimistic regarding the outlook for home building and has frequently urged its readers to build now and to advise their clients and customers to build now—before the gathering real estate and building booms skyrocket prices. We still have confidence in the immediate home building future.

One of the best known and most frequently quoted authorities on real estate and building trends is Roy Wenzlick, president of Real Estate Analysts, Inc., St. Louis. He has been much in demand as a convention speaker these past two years, demonstrating his big chart of cyclical ups and downs of home building volume. His definite forecasting and dating of the "Coming Boom in Real Estate," widely publicized and generally accepted, give special interest to his latest Bulletin, dated May 12, in which he answers the question, "Is the Boom Still Coming?"

"On May 13, 1936, two years ago," he states, "I published a booklet, 'The Coming Boom in Real Estate.' It attracted considerable attention at the time, was reprinted by the Reader's Digest, and appeared in practically all the best seller lists for a period of months. During the year following its appearance, its thesis was generally accepted. Of the hundreds of reviews which appeared, only two differed with the general conclusion.

"During this last year, however, the upward trend of business has been reversed. Industrial production has decreased and unemployment has increased at a phenomenal rate. The stock market has had one of the most radical readjustments in its history. Activity in the durable goods field which had started to advance has collapsed. New building which was showing strong signs of coming back to life after a long period of quiescence has fallen now for almost a year. Residential rents which were rising rapidly have halted, and are indecisive at the present time. Residential vacancy which had practically disappeared has again developed due to the redoubling of unemployed families, which had spread out to separate quarters during the period of temporary reemployment. In view of these developments during the past year, how far must previous forecasts be revised?

"Let us turn back to 'The Coming Boom in Real Estate' and see what we said two years ago. On page 14, we started a discussion of thirteen factors which we said were 'paving the way for a great upswing in real estate.' These factors, as we listed them then, were:

1. *Business is getting better after a great depression.* Everything we said then about the effect of general business recovery on real estate still applies. As we pull out of the present depression, the demand for residential units will expand rapidly.

2. *Delayed marriages are taking place.* Since this was written, the marriage rate has advanced in practically all cities of the United States, in some cities by very sizable percentages.

3. *Back to the city movements are replacing back to the farm movements.* Figures on this movement from city to farm, and

from farm to city are compiled by the Bureau of the Census and the Department of Agriculture. Since the year 1932 each year has shown a stronger trend toward the city and away from the farm.

4. *The number of buildings in most cities decreased during the depression.* Actual figures now available on quite a number of cities show that demolition during the depression exceeded the volume of new building.

5. *The population of the United States has increased during the depression.* This statement is still true as the increase is still continuing.

6. *A housing shortage is imminent.* In spite of the fact that residential vacancy has increased by about one per cent in the last year, it is still at a very low level, in most cities not over four or four and a half per cent on all types of residential units combined. In many cities it is under two per cent, and in some cities less than one. Any rapid increase in business conditions will bring about a decided shortage in housing.

7. *New buildings cannot be completed quickly enough to prevent the housing shortage from becoming acute.* It takes some time for a building boom to get under way, as the administration has learned in the past five years. No building boom has ever started rapidly.

8. *If building costs rise, new building will find it more difficult to reach large proportions quickly.* After this was written, building costs did rise by more than twelve per cent, which is one of the reasons why building volume fell. Costs are now at a lower point than they were a year ago, but they are still considerably higher than they were at the time this statement was written. Any great pickup in building will be accompanied by a further rise in building costs.

9. *The housing shortage will make rents rise rapidly.* Rents have risen. In every city where we compute monthly rent indexes, the average rent today is higher than it was at the time this statement was written. As soon as a resumption of industrial activity takes place the rise in rents will continue.

10. *Lower vacancy and higher rents will cause values to rise.* This has taken place and will continue as industrial activity increases.

11. *Foreclosures will be very low.* Foreclosures are now approximately forty per cent below the level maintained at the time this statement was written, and since 1935, the rate of decline has been quite uniform, carrying foreclosures to the lowest point since 1929.

12. *Mortgage money will be plentiful.* This statement seemed doubtful at the time it was made. There can certainly be no question of it at present.

13. *The building boom.* We have not yet reached the point at which the real building boom would start, nor have we yet reached the real real estate boom. When will it arrive? Probably not until 1943 or 1944."

*American Builder* would add to this comprehensive summary that support for optimism as to home building outlook is furnished currently not only by FHA figures on home mortgages accepted for appraisal, which are running about 40 per cent ahead of last year, but also by the F. W. Dodge figures of residential contracts let. For March '38 the total was almost up to March of last year; April was not so good; but for the first two weeks of May home building contracts totaled \$39,694,000 for the 37 eastern states, exceeding the same period last May by \$1,466,000. This is the first instance of '38 going ahead of '37, and shows the well sustained character of present demand.

# How Much is "High Cost" Building

**Here is a series of 7 forceful full-page newspaper ads to help you make sales by showing public it gets more home for the money today than ever in history. Program endorsed by Producers' Council and local dealers from coast to coast**

**By JOSEPH B. MASON**

**T**HE most critical problem still facing the building industry is the persistent buying resistance of the public created by the feeling that building costs are too high.

It is a buying resistance that costs everyone money. It *must* and *can* be broken down by a forceful drive to show that today's homes are *outstanding values*.

*American Builder* is now able to carry on its campaign begun a year ago by *supplying the vital local ammunition* needed by building industry men. Local builders and dealers can now conduct an effective local advertising drive to convince the public that it is getting **MORE HOUSE FOR THE MONEY TODAY** than ever before in history.

This ammunition consists of seven full-page newspaper advertisements prepared by the J. Walter Thompson Advertising Agency of New York, which graphically tell the story of today's high values in homes. Five of these advertisements are shown with this article. They are available to local building industry men in every community. Full-page newspaper mats will be supplied free of charge to newspapers who are selected by local building industry men to carry this message to the public.

## Continues High Value Campaign

Thus *American Builder* carries to its logical conclusion the "Truth About Home Building Costs" Campaign begun with its leading editorial in July 1937. This culminated in an entire issue in October devoted to the subject—an issue which has been used as a handbook by building industry men and organizations and by speakers, writers, editors everywhere in the United States.

As a result of this presentation of the real truth about home building costs and home values, the building industry is, for the first time, organizing in a united front to combat public feeling that building costs are too high, with a definite, forceful advertising and educational drive to show that **THE HOME OF TODAY IS THE MOST OUTSTANDING VALUE** ever offered in American history.

*American Builder* is merely acting as the spokesman and idea clearing house for a united building industry effort.

The program has received the full endorsement and support of The Producers' Council, Inc., affiliated with the American Institute of Architects, the members of which are so impressed by the importance of carrying this message of today's home values to the public that they have underwritten the costs of preparing the newspaper copy and supplying proofs of advertisements and mats for use in local drives.

The Producers' Council, under the vigorous leadership of Russell G. Creviston, president; and Marshall Adams, managing director, is working with its members and their 50,000 local dealers throughout the country, to get local support for advertising campaigns featuring copy of the type here illustrated. Producers' Council Clubs in 22 cities will organize local campaigns, call meetings of building industry men and select newspapers in which the advertising will be placed.

Because the Producers' Council is made up of a large number of leading manufacturers of building materials and equipment and associations who have dealers in every town and community in the country, a nucleus exists for the immediate sponsorship of thousands of local campaigns. One member of the Council alone, the Johns-Manville Corporation, has more than 3,000 lumber and building supply dealers who will be furnished with copies of the newspaper advertisements and urged to organize local action.

It should be pointed out, that the local campaigns are entirely non-competitive and that it is hoped that every element of the local building industry will participate. The support of builders, dealers, realtors, financial institutions, department stores, electrical equipment dealers, public utilities and organized labor is expected.

This is a job no single factor can perform. *American Builder* is proud to act as a clearing house to enable local building industry men to get the facts and data they need. It should be emphasized, however, that the campaigns must be organized and *entirely financed locally*. A portfolio, showing copies of the seven advertisements, and giving suggestions for local procedure and enclosing a series of newspaper publicity articles for use locally, has been prepared and is now ready for distribution. Any building industry man seriously interested in starting such a local campaign should write direct to the *American Builder* at 105 West Adams St., Chicago; or 30 Church

## Thank You . . . . .



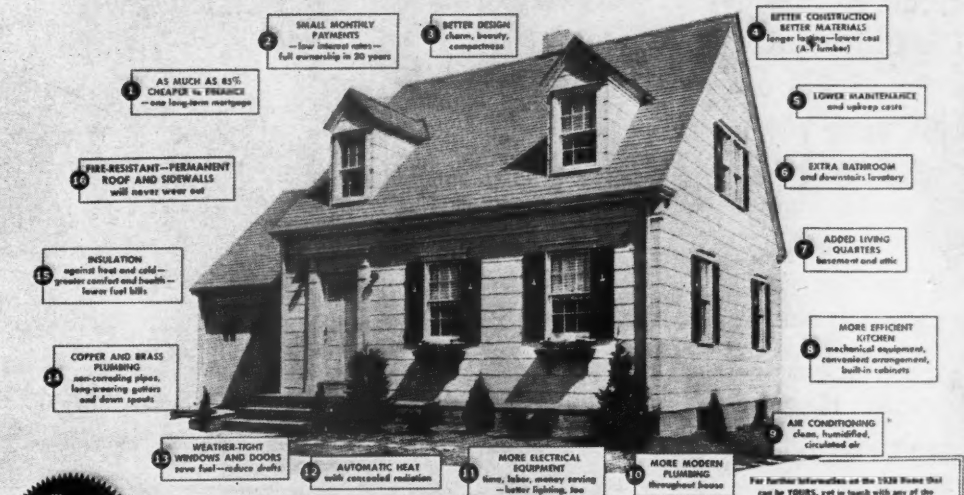
**SHACKELFORD** of Johns-Manville, for initiating advertising program, directing preparation of copy and relentlessly sticking to it.



**ADAMS** of Producers' Council, for mobilizing the industry in most constructive cooperative program it has ever undertaken.

# Propaganda Costing You?

## TODAY YOU GET 25% TO 40% MORE HOME FOR YOUR MONEY



These 16 "EXTRAS" for Better Living

**A 1938 Home offers greater value than at any time in history**  
*...and actually costs less than the 1926 house*

**Did you know that the greatest single BARGAIN—the most outstanding VALUE in America today is a new home? Did you know that the 1938 home, like the modern automobile, makes the 1926 model practically obsolete due to improvements and new developments?**



You would expect that, with such improvements and scientific achievements, you would pay more for the greater livability, durability, charm and ease of buying.

But, actually, the 1938 home costs less than the home of 1926. One reason is new, lower cost materials, many of which are actually built at the factory—ready-made door frames, windows, kitchen and other cabinet assemblies, standard lumber, modern building products of many kinds that come in planned units for speedy, labor-saving assembly. In short, today's building materials dollar stretches further.

And heat—in detail—is why you get 25% to 40% more real value than at any time in history. Your home will be better designed. Great strides have been made by the better architects and builders of the country in designing homes to eliminate waste space and to make them more attractive. Your home will be better built. It must pass Federal Housing Administration inspection for quality specifications, sound principles of construction.

Your home will be more comfortable. Radiation, improved heating plants, air conditioning have given the modern home comfort that was never dreamed of ten years ago!

Your home will be more economical. Many materials have been developed which have eliminated items of expensive upkeep that were looked

upon as a necessary evil of home ownership just a few years ago.

Your home will be more efficient. Better kitchen planning, with new and improved labor-saving devices, streamlined, built-in features that remove the word "dreadful" from housekeeping, and better room arrangement that eliminates many of the errors of construction that meant added building to the homeowner.

Your home will be safer. Fire-resistant insulation and building materials, healthier atmospheric conditions, all help minimize the hazards of the past... and with all this—

Your home will be far easier to finance. There never was a time when it was so easy to FINANCE a home. Long term, low cost Federal Housing Administration financing makes it possible to pay for a new home out of a modest-size income, with low monthly payments like rent, on a plan that gives you full ownership of the home in 30 years—and at a cost that in many cases is as much as 85% less than former financing costs.

Study the 16 specific points of improvement in the illustration. Go over them point by point. Confirm these new developments and features with any of the companies listed in this advertisement. And you will see with us that the 1938 home is the most outstanding value in America today. Your architect, builder, contractor or building materials dealer will be glad to offer information and literature to satisfy the fact that you get more home for your money today.

For further information on the 1938 Home that can be YOURS, get in touch with any of the following—who sponsored this advertisement

Publication to Set Sponsors' Names and Locations

No. 1

## Put These Powerful Advertisements to Work in Your Town . . . . .

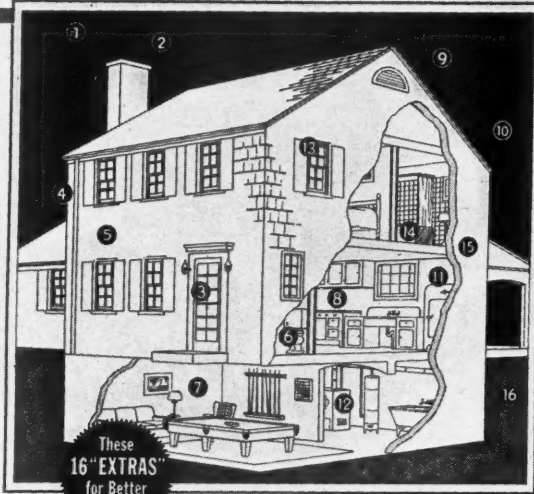
**YOU CAN CHANGE THE TIDE of public opinion—create sales—show that a new home is a BARGAIN VALUE today, by taking the lead in your local community. Copies of 7 full-page ads, newspaper mats, publicity articles and "how-to-do-it" information available free for use in putting on local campaign. Write AMERICAN BUILDER or Producers' Council**

**A Banner Under Which All Local Building Men Can March to Create More Home Building and Combat False "High Cost" Ideas that Are Costing You Money**

**Advertisements, Mats, Newspaper Articles and Helpful Suggestions for Local Campaign Available Free**

## WHO SAID TODAY'S HOUSE ISN'T A BARGAIN? LOOK!

- 1 AS MUCH AS 85% CHEAPER TO FINANCE—low long-term mortgage
- 2 SMALL MONTHLY PAYMENTS—low interest rates—full ownership in 20 years
- 3 BETTER DESIGN—clean, beauty, compactness
- 4 BETTER CONSTRUCTION BETTER MATERIALS—larger living—lower cost (A-1 lumber)
- 5 LOWER MAINTENANCE and upkeep costs
- 6 EXTRA BATHROOM and downstairs lavatory
- 7 ADDED LIVING QUARTERS—basement and attic
- 8 MORE EFFICIENT KITCHEN—mechanical equipment, convenient arrangement, built-in cabinets



- 9 AIR CONDITIONING—clean, humidified, circulated air
- 10 MORE ELECTRICAL EQUIPMENT—time, labor, money saving—better lighting, too
- 11 MORE MODERN PLUMBING throughout house
- 12 AUTOMATIC HEAT with concealed radiation
- 13 WEATHER-TIGHT WINDOWS AND DOORS—save fuel—reduce drafts
- 14 COPPER AND BRASS PLUMBING—non-corroding pipes, long-wearing gutters and down spouts
- 15 INSULATION—against heat and cold—greater comfort and health—lower fuel bills
- 16 FIRE-RESISTANT—PERMANENT ROOF AND SIDING—will never wear out

AS A MATTER OF FACT

**THE HOUSE YOU BUILD OR BUY IN 1938—WITH 25% TO 40% MORE REAL VALUE—actually costs much less than the 1926 house**

YOU get from "25% to 40%" more home for your money today. And that's a conservative estimate—as you'll agree after checking the 16 better improvements shown above.

And you actually pay no more for this 25% to 40% greater value than you would have paid for a 1926 house, incredible as it seems.

There's really no mystery about the greater value—it's available today because everyone connected with the building industry has been hard at work for the past ten or twelve years learning to stretch the home-building, home-buying dollar so far that today's home is the most outstanding value in America.

Consider the manufacturer's contributions.

Today there are many new, lower priced, more cheaply applied materials that were unknown in 1926. And a surprising proportion of the 1938 house is actually built in the factory—ready-made door frames, windows, kitchen and other cabinet assemblies, standard lumber, modern building products of many kinds that come in planned units for speedy and labor saving assembly.

But, important as these savings are, they are only a part of the whole bargain value. Today you get plus value at every step—and here's why.

Your house will be better designed. Great strides have been made by the better architects and builders of the country in designing homes to eliminate waste space and to make these more efficient.

Your house will be better built. It must pass Federal Housing Administration inspection for quality specifications, sound principles of construction.

Your house will be more comfortable. Insulation, improved heating plants, air conditioning have given the modern home comfort undreamed of ten years ago.

Your house will be more economical. Many materials have been developed which have standardized terms of expansion unless they were backed up as a necessary evil of home ownership just a few years ago.

Your house will be safer. Fire-resistant materials and building methods, healthier arrangements, modern help maintain your health—let's all do this.

Your house will be far easier to finance. There has been a rapid increase in home buying loans, and the Federal Housing Administration financing makes it possible to pay for a new home out of a modest income, with low monthly payments like rent, on a plan that gives you full ownership of the house in 20 years—and at a rate, in many cases, as low as 4%, less than better financing costs.

Don't take the 16 points of improvement shown in the illustrations simply on faith. Consult them with any of the companies listed in this advertisement. And now, architect, builder, realtor, banker or building materials dealer can furnish complete information and helpful literature on America's No. 1 Value—a new home.

For further information on the 1938 Home that can be YOURS, get in touch with any of the following—who sponsored this advertisement

Publication to Set Sponsors' Names and Locations

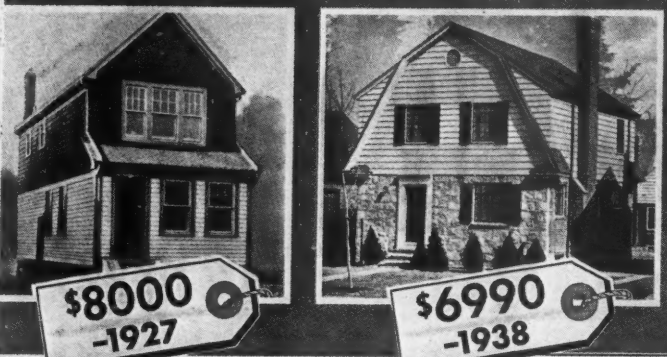
No. 3

St., New York; or to Marshall Adams, managing director, The Producers' Council, 122 East 42nd St., New York.

This program of local advertising drives is a direct and logical outgrowth of last year's efforts by *American Builder*. At that time a large number of builders and dealers got together with their local newspapers and sponsored local advertising, using ideas, suggestions and illustrations supplied by *American Builder*. Most of these efforts, however, were short-lived and did not have sufficiently strong backing and sufficiently effective advertising copy.

Now, every town and community can have the benefits of the services of one of the nation's largest advertising agencies, which has prepared this series of newspaper advertisements. Because "one-time" advertising is not effective, the objective of this plan is the publication of the entire series of dominant, forceful full-page advertisements once a week for at least seven weeks. It is felt that the only way to change public psychology is by the use of powerful, full-page advertising such as this to establish a "bargain value" consciousness in the minds of buyers. Just as mail order and department stores create a feeling of "getting a bargain," so must the building industry show the public it gets more house for the dollar than ever before. This is more than an advertising program—it is a vigorous attempt to change completely public psychology towards home buying. Extensive editorial support in the newspaper's real estate or

## COMPARE



That's why old phrase, "Another day, another dollar," has a new and vital meaning for the man who depends on his own home.

Year 1938 is most decidedly another day in home building world. Today's new home work more durable, double and chequer, yet easier to buy, than the house of 1926 as evidence to the contrary of ten years ago.

Today's home building, home buying, is built on definitely modern—and a higher—level.

In 1938 you get from 25% to 40% more home for the dollar, more money, more and far less money than in 1926.

New materials help stretch your dollar—lower cost, more cheaply applied materials that were unknown in 1926. And much of the work that used to be done slowly and expensively on the job is now done at the factory—ready-made door frames, windows, kitchen and other cabinet assemblies, standard lumber, many modern building products that come in planned units for speedy, labor saving assembly.

The 1938 house, we repeat, is a 25% to 40% greater value—and here's why.

Your house will be better designed. Great strides have been made by the better architects and builders of the country in designing homes to eliminate waste space and to make these more efficient.

Your house will be better built. It must pass Federal Housing Administration inspection for quality specifications, sound principles of construction.

Your house will be more comfortable. Insulation, improved heating plants, air conditioning have given the modern home comfort undreamed of ten years ago.

Your house will be more economical. Many materials have been developed which have standardized terms of expansion unless they were backed up as a necessary evil of home ownership just a few years ago.

Your house will be far easier to finance. There has been a rapid increase in home buying loans, and the Federal Housing Administration financing makes it possible to pay for a new home out of a modest income, with low monthly payments like rent, on a plan that gives you full ownership of the house in 20 years—and at a rate, in many cases, as low as 4%, less than better financing costs.

Don't take the 16 points of improvement shown in the illustrations simply on faith. Consult them with any of the companies listed in this advertisement. And now, architect, builder, realtor, banker or building materials dealer can furnish complete information and helpful literature on America's No. 1 Value—a new home.

Your house will be better built. It must pass Federal Housing Administration inspection for quality specifications, sound principles of construction.

Your house will be more comfortable. Insulation, improved heating plants, air conditioning have given the modern home comfort undreamed of ten years ago.

Your house will be more economical. Many materials have been developed which have standardized terms of expansion unless they were backed up as a necessary evil of home ownership just a few years ago.

Your house will be far easier to finance. There has been a rapid increase in home buying loans, and the Federal Housing Administration financing makes it possible to pay for a new home out of a modest income, with low monthly payments like rent, on a plan that gives you full ownership of the house in 20 years—and at a rate, in many cases, as low as 4%, less than better financing costs.

Don't take the 16 points of improvement shown in the illustrations simply on faith. Consult them with any of the companies listed in this advertisement. And now, architect, builder, realtor, banker or building materials dealer can furnish complete information and helpful literature on America's No. 1 Value—a new home.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

**COMPARE THESE 16 "EXTRAS" WITH THE FEATURES OF ANY HOUSE BUILT 10 YEARS AGO...**



**YOU GET MORE HOME, GREATER VALUE FOR YOUR DOLLAR THAN AT ANY TIME IN HISTORY**

**These 16 "EXTRAS" for Better Living**

**HOW IS THE TIME TO BUILD OR BUY?**

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

Check the "value" of the dollar today. It's not the same as it was ten years ago. It's a higher value. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before. It's a dollar that buys more home for the dollar than ever before.

# "OH, JOHN, IT'S OURS!"



"—and just think—we may never have to move again—and nobody can raise our rent!"



Did YOU know that in today's home you get 25% to 40% MORE REAL VALUE for your money than in 1926?

HAVE you been planning to own your own home? Are you tired of the uncertainty of renting? Of accumulating nothing but rent receipts? Of never knowing from one year to the next just where you will be living, who your friends will be, where your children will go to school? Have you been seriously wondering whether NOW is the right time to build a big?

If you've been hesitating, the chances are you don't know that the biggest bargain anybody's money can buy today is a new home. New materials are partly responsible—lighter, stronger, more economical applied materials that simply didn't exist in 1926. But the increased

values in the modern home are broader than that, as evidenced by the fact that...

Your house will be better designed. Great strides have been made by the better architects and builders of the country in designing homes to eliminate waste space and to make them more attractive.

Your house will be better built. It must pass Federal Housing Administration inspection for quality construction, sound principles of construction.

Your house will be more comfortable. Insulation, improved heating plants, air conditioning have given the modern home comfort that was never dreamed of ten years ago.

Your house will be more efficient. Better kitchen planning, with new and improved labor-saving devices, scientific, built-in fixtures that conserve the most droppers from housewifery, and better room arrangement that eliminate steps of the stairs of convenience that appear added burdens to the housewife.

Your house will be safer. Fire-resistant insulation and building materials, better construction details, all help maintain the health of the past...

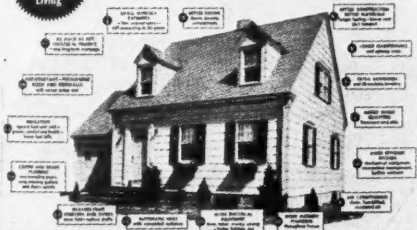
Your house will be the safest to finance. There never was a time when it was so easy to finance a home. Long term, low cost Federal Housing Administration financing makes it possible to pay for a new home out of a modest income, with low monthly payments like rent, on a year that gives you full ownership of the house in 20 to 25 years—and at a cost that is lower than in 1926.

For further information on the 1938 Home that can be yours, get in touch with any of the following—who sponsored this advertisement.

Publication to Set Sponsors' Names and Locations

These 16 "EXTRAS" for Better Living

Today you get more home, greater value for your dollar than at any time in history



## THE OLD WAY TO FINANCE

When a man wanted to buy a house under the old method of financing, he had to pay for it in cash. He had to have the money to pay for the house and the furniture and the other things that he needed to live in it. He had to have the money to pay for the house and the furniture and the other things that he needed to live in it.

## THE NEW WAY TO FINANCE

Now a man can buy a house under the new method of financing. He can pay for it in installments. He can pay for the house and the furniture and the other things that he needs to live in it.

No. 6

An Educational Campaign, Sponsored by AMERICAN BUILDER, as a Part of a Nation-Wide Program to Create Employment by Showing the Public that it Gets More Home for the Money Today than at Any Time in History

All Local Building Interests Urged to Unite to Correct False Price Thinking and Turn the Tide of Public Opinion Regarding Home Costs and Values

...AND IT COSTS ONLY  
**\$38.56**  
a Month  
with today's low-cost, long-term financing

—why not own your own home—and pay rent to yourself? Your money will buy 25% to 40% more home today than in 1926!

LOW-COST FINANCING! "Just what I don't want!" you say. Simply that you can get your hands on a new home today with a smaller down payment, and pay for it in installments. You can pay for the house and the furniture and the other things that you need to live in it.

Your house will be more comfortable. Better kitchen planning, with new and improved labor-saving devices, scientific, built-in fixtures that conserve the most droppers from housewifery, and better room arrangement that eliminate steps of the stairs of convenience that appear added burdens to the housewife.

These 16 "EXTRAS" for Better Living

COMPARE THESE 1938 VALUES WITH THE HOUSE OF 1926



MORE HOME FOR YOUR MONEY THAN AT ANY TIME IN HISTORY

For further information on the 1938 Home that can be yours, get in touch with any of the following—who sponsored this advertisement.

Publication to Set Sponsors' Names and Locations

building section should be sought to give the greatest possible strength to such campaigns.

Newspapers have expressed great interest in the plan since it offers them an opportunity to increase their local revenues and bring in additional new advertisers. Furthermore, the vigorous presentation of an advertising program such as this should materially stimulate home building in the community, which means better business for everyone—including the newspaper. Every time a new home is built the owner spends from 10 to 20 percent of the cost of the house on furnishings, equipment and accessories which are widely advertised in newspapers.

A most successful campaign of this type was recently carried in Washington, D.C., by The Washington Post. This newspaper enlisted the support of a large group of local building interests, about 75 percent of whom were builders. Each Sunday, for many weeks, a full-page advertisement cooperatively sponsored by these building men appears, stressing the high value of today's homes—the 16 points of superiority—the scientific progress revealed in the home of today.

This program was highly successful both from the viewpoint of the newspaper and the local building men, and the same group is now considering carrying on its

(Continued to page 108)



**PREVIEW OF FAIR**—Today the site is teeming with construction activity, but a year from now it will look as pictured above. Dominating the scene is the "Theme Center" with its 700-foot Trylon and 18-story Perisphere, now about half built. Forty-six major buildings were completed or under construction April 30, when a "Preview" attended by half a million people was held.

"**F**OR ten cents you can see *the most spectacular construction project in the world,*" we were told. It sounded like a big order, but after our visit to that vast beehive of building activity, the New York World's Fair of 1939, the editors of *American Builder* agreed that the boast was made good. All our trip cost was two New York subway rides. In return we saw a 150-million-dollar project being rushed towards completion. It was an American builder's dream come true—1200 acres of concentrated construction activity demonstrating the latest uses of materials, methods and equipment in the building of the "World of Tomorrow."

A year ahead of the scheduled opening April 30, 1939, the construction program is running far ahead of schedule. Most of the Fair Corporation's own exhibit buildings are completed or in an advanced stage of construction.

Seventeen huge exhibit halls including two Shelter Buildings, a Communications Building, Business Administration Building, Transportation Building, Textiles, Electrical, Health and Chemicals Buildings are up in steel and framing or already completed. The \$740,000 Administration Building has been in use since August 1937. More than ten million dollars in underground improvements have been completed, and eleven striking modern bridges, costing more than three million dollars, have been built and are in service. More than 3,500 workers are employed at present and this may ultimately swell to 12,000.

Yes, it is a spectacular and thrilling sight for any building industry man. *American Builder* believes it the liveliest construction story of the year, and throughout the balance of this year and until the opening in 1939 will keep its readers in touch with the building program.

In addition to the interesting design and construction features of the exhibit buildings themselves, *American Builder* readers will find particular attraction in the "Town of Tomorrow," a landscaped garden community of 21 demonstration homes laid out to solve the traffic problem of today and provide an ideal small community.

The Fair Corporation will construct the 21 demonstration homes using modern materials and equipment supplied by co-operating manufacturers. Free-standing sections of walls and roofs will show the "hidden" features of construction, including sheathing, insulation, structural systems, framing, plumbing and wiring. The price range of the houses is to run from \$3,000 to \$17,000. Plans for the houses



# Building the "World of Tomorrow"

**Spectacular Construction Problems Being Solved in \$150,000,000 New York World's Fair of 1939. 3,500 Workers Now Employed**



TWO HUGE PYLONS under construction in front of the Communications Building.

have been completed and construction will start this summer. A huge Home Building Products Building is already well on its way to completion, and in addition there will be several Shelter and Home Furnishings Buildings grouped adjacent to the Town of Tomorrow.

## Construction Features

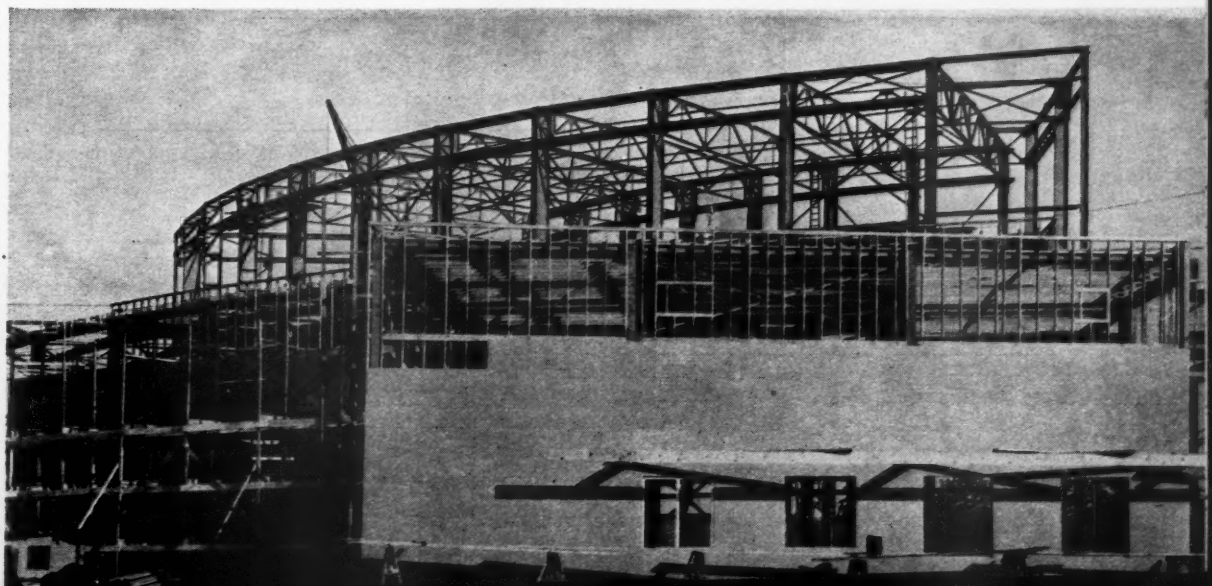
In this brief preliminary account it is possible to give only a suggestion of the building design, methods and materials. The architecture is Modern, yet different from anything ever done before. The huge exhibit structures necessarily have great, unbroken wall areas and solid piling of masses that make for impressive effects. An important and dramatic feature of the architectural de-

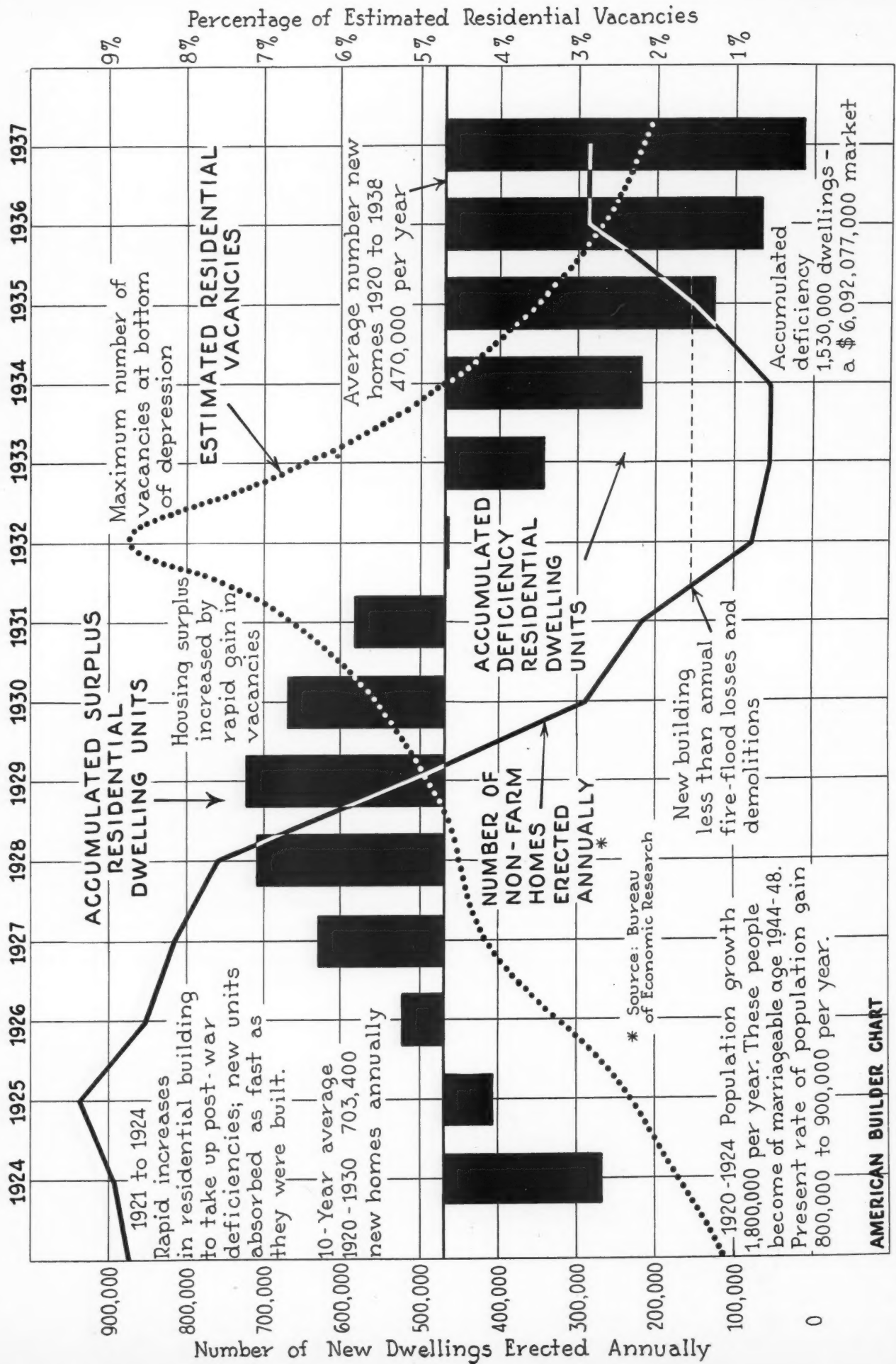
sign is the use of luminous products and new types of lighting. High-intensity mercury vapor lamps are playing a large part in the lighting scheme. Unusual and changing colors will be achieved through arrangements of the mercury vapor lamps. Through projection of lighting on the buildings, such effects as the deepening colors of twilight or the pastel shades of dawn will be achieved.

The basic construction scheme of most of the buildings consists of lightweight steel framework, upon which is hung an exterior shell of gypsum board, plywood or other large panel material attached to wood studding. Since a large part of the Fair site originally consisted of a swampy marsh, it has been (Continued on page 110)

STEEL BASE (at left) of the 200-foot Perisphere under construction. Eight massive columns carry the 5,760,000-pound load.

COMMUNICATIONS BUILDING, showing steel framework carrying lightweight exterior shell of gypsum board attached to wood frame.





WITH AN ACCUMULATED SHORTAGE of 1,530,000 homes, following a ten year decline, and an all-time low in home-building volume, the stage is set for a period of active construction. Wise prospective home owners will save money by building while volume and prices are at present levels, and while there are plenty of experienced men available. Those who wait until building volume increases necessarily will pay higher prices, and will encounter shortages of trained building mechanics.

# 1½-Million New Homes Needed

**M**OST people build or buy homes the way they buy stocks—at the wrong time, when everyone else is buying, and prices are high. Wise buyers will build now, while prices are down, and experienced building mechanics are available to handle their work. At present there is an accumulated need for 1½-million new homes, and the stage is set for a period of very active building.

The chart on the facing page shows how an enormous need for new homes has been built up during the past six years. It also shows residential building volume by years, and how vacant dwelling units have been absorbed during the recent recovery period. What has happened on a nation-wide scale, as shown by the chart, is duplicated in a smaller way in practically every community.

The solid black line on the chart shows that most people bought homes in 1925, at the peak of the boom, four years before the stock market crash, when prices were high and labor was very scarce; 937,000 new homes were built that year. At the bottom of the depression, when prices were lowest, and men sought work, only 54,000 new homes were built in a year. The chart also shows that 1937 home-building volume was five times greater than 1933, but only 40 per cent of the 1920's average of 703,000 new homes a year.

From 1920 to 1938 an average of 470,000 new homes was erected annually. This indicates our annual needs, because the 17-year average is spread over a complete building cycle, from low to boom-time peak and back again to an all-time low. Approximately 150,000 homes are destroyed each year by fires, floods, or demolished through obsolescence, while 320,000 are needed to take care of normal population growth.

## How Deficiency Was Computed

The horizontal line at the center of the chart indicates the annual requirement of 470,000 new dwellings. The solid pillars above or below this line indicate the accumulated housing surplus or deficiency. In 1920 there was a severe post-war housing shortage. Industry, geared up to war-time levels, had suffered terrific losses from an "inventory panic." The building revival that began in 1921 pulled all business out of a deep depression. History apparently is about to repeat itself.

Each pillar was computed by comparing annual requirements with the number of new homes actually built, beginning with the enormous shortage of 1920. In 1927, for instance, 810,000 dwelling units were erected. Production exceeded annual requirements by 340,000. The surplus was increased accordingly, as shown by the black pillars for 1926 and 1927.

An additional factor should be considered. Demand for homes is flexible. Vacancies increase during a depression, although new building may be at a standstill. The dotted line on the accompanying chart shows estimated percentages of residential vacancies by years. There were practically no vacancies in 1920. New homes were built at a terrific rate during the next four years, and were absorbed as fast as they were built. The peak was reached in 1925, after which both residential vacancies and foreclosures rose rapidly.

No allowance was made for vacancies in computing the pillars showing surpluses and deficiencies. Thus, according to the chart, the housing surplus was wiped out in 1932. Actually, there was at that time an unprecedented number of vacancies, due to depression conditions, doubling up of families, and the movement of population from cities to farms. These vacancies had to be absorbed be-

fore normal demand for new homes could be expected.

That these vacancies have been absorbed is shown by the dotted line. Vacancies have declined steadily since 1933, and now are below normal. The number of marriages has been increasing since 1933. The number of real estate foreclosures has declined since 1933. The movement of population is from farms to cities. There is plenty of money available at low interest rates.

At present our population is increasing 800,000 to 900,000 a year. From 1920 to 1924 our population growth was 1,800,000 persons a year. People born during the early 1920's become of marriageable age between 1944 and 1948, and will create a huge market for new homes at that time.

Ormond E. Loomis, Federal Home Loan Bank Board, in a recent address before the annual convention of the American Institute of Architects, predicted that within the next ten years approximately 8,000,000 dwellings must be provided for American families. Demand, he stated, will depend on family incomes, the kinds, and costs of houses offered. About two-thirds of the new homes will be single-family dwellings, about 10 per cent will be two-family units, and the remainder large, multi-family units. "These houses," added Mr. Loomis, "as in the past, will be built chiefly in our smaller urban areas."

"It is in single-family houses that most of our families live. It is there that incomes are most constant and secure. It is there that birth rates are higher and family interest is more responsive. It is there that housing needs today are greater. It is there, especially in communities of less than 25,000, that investments are more secure, and that even in times of financial stress the rate of foreclosure is one-third to one-fifth that of our larger communities."

"It may surprise you to learn that in spite of the financial stringency in many quarters, the supply of private savings in the United States is steadily increasing, and that there is on hand enough to provide for a major housing boom."

The stage is set. The prospective home owner who builds now will buy at the start of an active upswing, so naturally will pay less and will have the benefit of more experienced men than will the owner who waits until the industry is extremely busy.

Similarly, the manufacturer who gets his products firmly established with distributing outlets and the building professionals who control their selection and use will benefit most from increased building activity. His products cannot easily be dislodged by competitors when the market is more active and intensive promotional efforts are made. The building professional is important because he almost invariably guides the home-building consumer through the complex and sometimes hazardous business of becoming an owner.

During 1937 only one family in each 103½ was a definite new home prospect. Each was located, guided and influenced by a building professional. The average expenditure per family for new homes in 1937 was \$40.93. The average per capita expenditure was \$10.23.

There are an estimated 100,000 building professionals in the United States. During 1937 each averaged 2.89 new homes. His average expenditure for new homes was \$12,220. Thus each building professional bought more building products than each 300 families, and each 1,194 non-professional individuals. On this basis an active building professional who erects only three houses a year is 300 times more important as a market outlet than the average family of four persons.

WITH AN ACCUMULATED SHORTAGE OF 1,530,000 homes, following a ten year decline, and an all-time low in home-building volume, the stage is set for a period of active construction. Wise prospective home owners will save money by building while volume and prices are at present levels, and while there are plenty of experienced men available. Those who wait until building volume increases necessarily will pay higher prices, and will encounter shortages of trained building mechanics.



Photo by SIDNEY M. SUNDELL

FIVE MILLION DOLLAR apartment project in Scarsdale, N. Y., now under construction by Charles Newmark, under FHA plan.

# Rental Housing Construction

**First of a Series of Articles on Planning and Building Methods for Apartments, Row Houses and Large-Scale Rental Housing Projects.**

**P**ASSAGE of the recent amendments to the National Housing Act has opened a wide and desirable field for builders in rental housing. In the few short months since the new bill was signed, many millions of dollars of apartments, row houses and large and small-scale rental housing projects have been started.

Interest of builders in this type of construction makes it seem desirable for *American Builder* to publish a series of articles on the subject, of which this is the first.

Builders thinking of starting a large or small-scale rental housing project are urged by FHA to get in touch with the Rental Housing Division at FHA headquarters in Washington, D.C., or to get in touch with the nearest local FHA office. Before doing so, it might be well to obtain a copy of FHA Form 2012, which sets forth the legal and financial requirements. Another FHA booklet, "Rental Housing as an Investment," sets forth some of the general facts concerning community and neighborhood planning. More complete data is given in the newest FHA 27-page booklet entitled, "Architectural Planning and Procedure for Rental Housing."

After preliminary discussions and study, if it is decided to go ahead with a rental project, a formal application is made on application blank Form 2013, to which must be attached a considerable number of exhibits and data which are submitted to the Washington office through the office of the State Director.

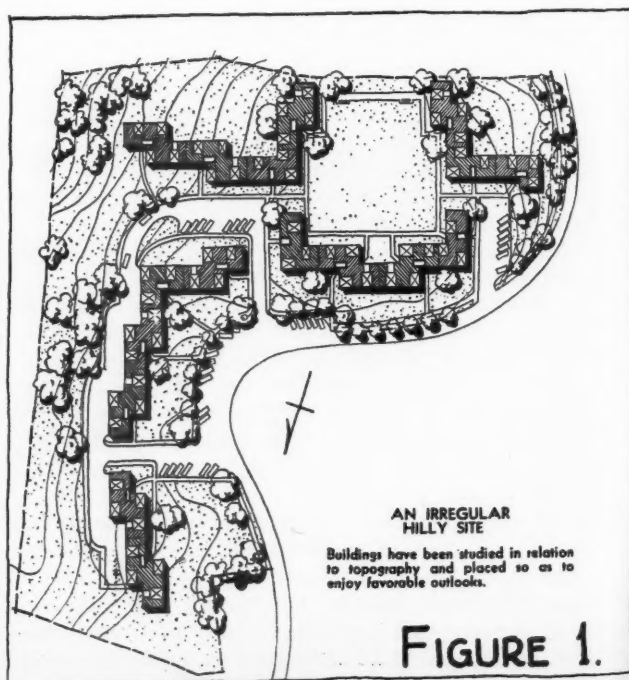
## What Is Rental Housing?

Sections 207 and 210 of the National Housing Act make possible the financing of large and small-scale housing projects which may consist of groups of ten or more small homes, or of apartments, row houses, or two, four and six-family houses. Financing is provided by private sources but the loan is insured by FHA. A blanket mortgage may cover as high as 80 percent of the total value of the project.

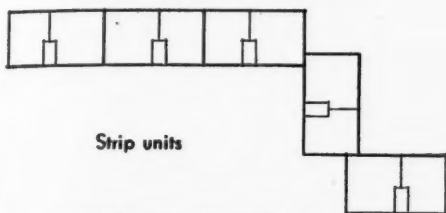
As a rule, the type of rental housing which FHA encourages gets away from the solid masses of buildings in closely built-up areas. Many of the projects thus far approved cover only 30 to 40 percent of the land area, leaving ample space for lawns, playgrounds and parking.

## Site Planning

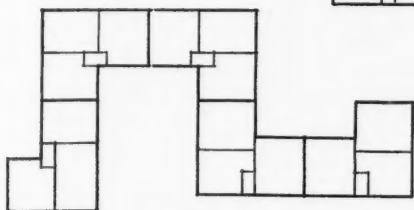
Figure 1 below shows how a group of buildings has been placed on an irregular, hilly site to provide ample grounds, good outlook and light. When a large number of houses are built at one time in this fashion, it is possible



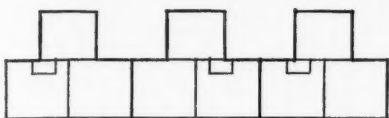
## ASSEMBLED UNITS



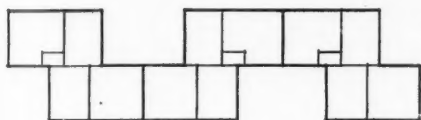
Strip units



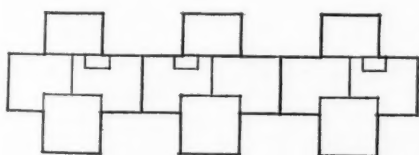
Ell units



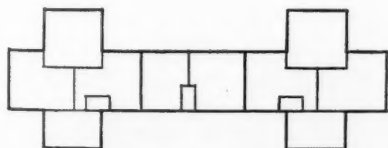
Tee units



Zee units



Cross units



Cross and strip combined



Ell and strip combined

## FIGURE 2.

HOW BASIC UNIT PLANS are assembled in various types of apartment or housing projects.

to control the entire community so that its environment will never deteriorate.

FHA advises that buildings be placed to take best advantage of natural features such as favorable views, sunlight, prevailing breezes and shade of trees. Narrow or closed-in courtyards should be avoided, as well as small interior courts at the lot lines surrounded on three sides by the structure.

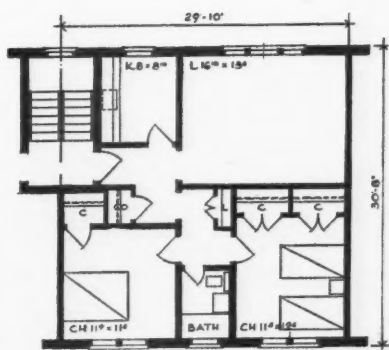
Buildings should not be crowded too close to the side and rear lot lines, which is declared to be a very common fault because there is no control over adjacent property, and when another building is built the structure suffers from loss of light, air and privacy.

Most of the apartment projects already approved by FHA have been two or three stories in height and provide a high percentage of garden and lawn space. Houses should be arranged so that service sections are adjacent to each other, and living spaces face the living room of the neighbors on the other side. It is frequently possible to stagger the arrangement of houses so as to afford a clear and protected view across adjacent property instead of looking directly into neighbors' windows. Housing should be arranged for favorable orientation of individual rooms in relation to prevailing winds and sunlight.

FHA architects and engineers have done a notable job in compiling and summarizing some of the recent progress in housing design. They have found that there are five principal variations of satisfactory forms, such as are indicated in Figure 5. These are the straight line or strip unit, the corner or L unit, the T unit, the Z and the X. The shaded portion in the diagram shows the area which does not receive outside light perpendicular to an exterior wall. FHA states that it is usually desirable to have more than one entrance to a group of apartment dwellings and to avoid long corridors, which mean poor ventilation and waste space.

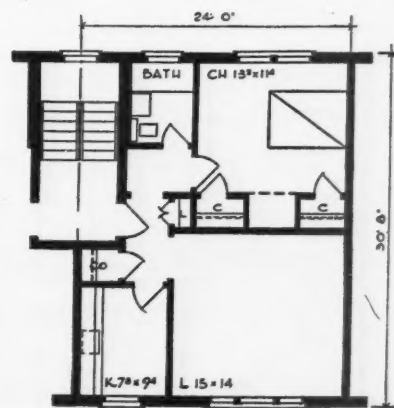
Figures 3, 4 and 6 show more detailed planning of the basic recommended types of housing units. The strip unit with two apartments has all space properly lighted and, other things being equal, according to FHA, is one of the most desirable forms. It gives two opposite exposures to all apartments, allows a maximum of privacy, permits arrangement on the site to take advantage of a good view, prevailing winds and exposure to the sun, and the shape itself does not create projections which cast shadows. For walk-up apartments this type can usually be justified on a cost basis. FHA states that the Z and L arrangements are also acceptable for walk-up apartments.

Under ordinary circumstances, the four apartment Z is the most economical type of elevator apartment and produces the highest percentage of desirable space. The X unit is sometimes justified, according to FHA, but is a more expensive type and produces



STRIP UNIT—Two bedroom apartment with privacy of access.

## FIGURE 3.



STRIP UNIT—One bedroom apartment with through ventilation and privacy of access to all rooms.

## FIGURE 4.

more unlighted space than the more desirable Z type.

In the small apartment, the FHA experts point out, kitchen, living and dining space should, where possible, be separated from bedrooms and bath. In commenting on the strip unit apartments, illustrated in Figures 3 and 4, FHA states that this is a desirable arrangement for a three-room single-entrance apartment. All rooms can be reached from the entry. The kitchen and living room portion and bedroom-bath are properly arranged, each for its special purpose. Coat closet is off the entry, linen closet is in the bath hall, and there are clothes storage closets off each bedroom. Delivery is made to the kitchen from the entry. The arrangement is compact, yet its functions properly.

According to FHA, wherever possible all rooms should be reached from the entrance foyer without passing through any major room. As a rule, a kitchen should not have its only entrance from the living room. Kitchens opening directly into living rooms without an intervening

(Continued to page 112)

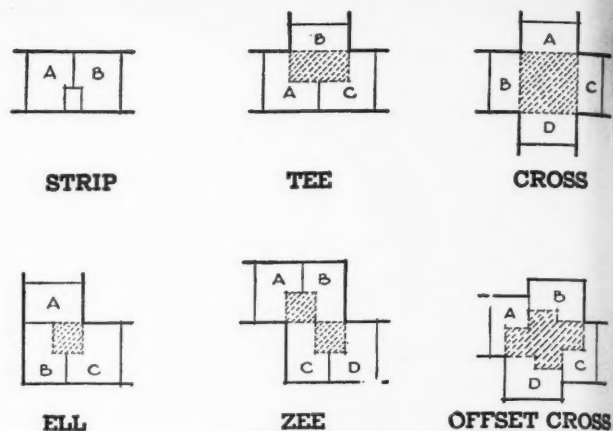
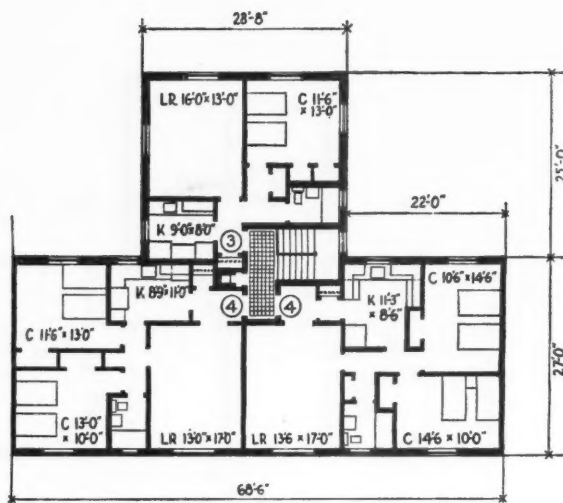


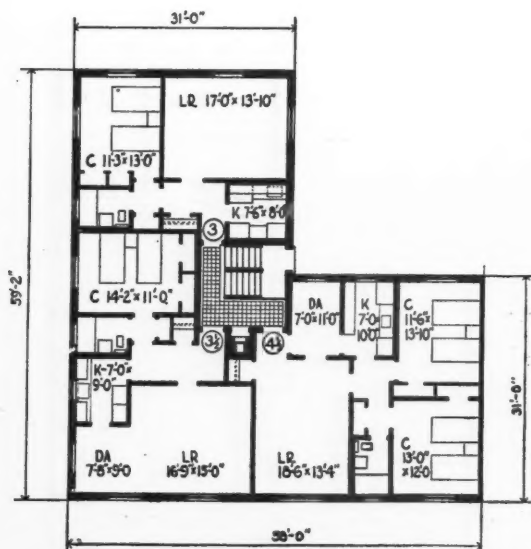
FIGURE 5

THE FIVE BASIC BUILDING UNIT PLANS with a variant of the cross: shaded areas indicate "blind corners."

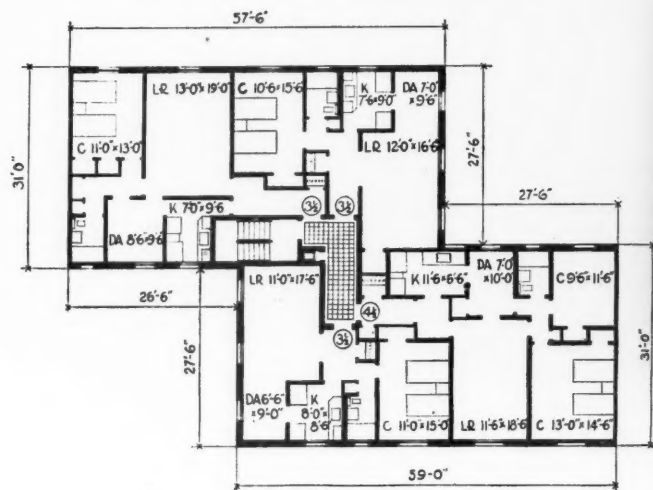
FIGURE 6.



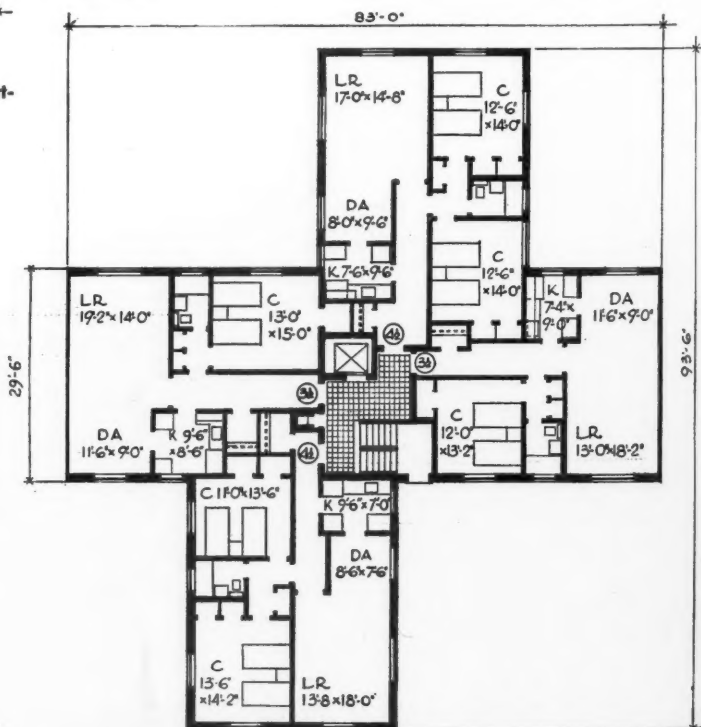
TEE UNIT—Affords through ventilation for all three apartments; large perimeter per room produced.



ELL UNIT—Two apartments have through ventilation and one, corner ventilation; economical for walk-ups.



ZEE UNIT—Two apartments have through ventilation and two, corner ventilation. An economical unit, usable for walk-up or elevator apartments.



CROSS UNIT—Through ventilation for all apartments; best use for elevator apartments; most expensive per room produced.



## Home Designs for Current Building



Several types of houses for Resort and Country requirements are to be found among those homes selected for this month's Design Section. With the Summer Building Season now at hand such projects are again prominent; many useful ideas concerning them will be found on some of the following pages

THE VIEWS above and to the left show the wall and ceiling treatment of the living room and the compact kitchen of a week-end retreat built by Grover and Dunlap near Cleveland, O. The exterior and floor plan of this well constructed, rustic country house appear on the next page.



THE RUSTIC appearance given to this week-end home by the use of massive log walls, railings and posts makes it fit perfectly into its wooded country site. Second floor bedroom overhang provides shelter over one end of the porch which could be screened in if desired.

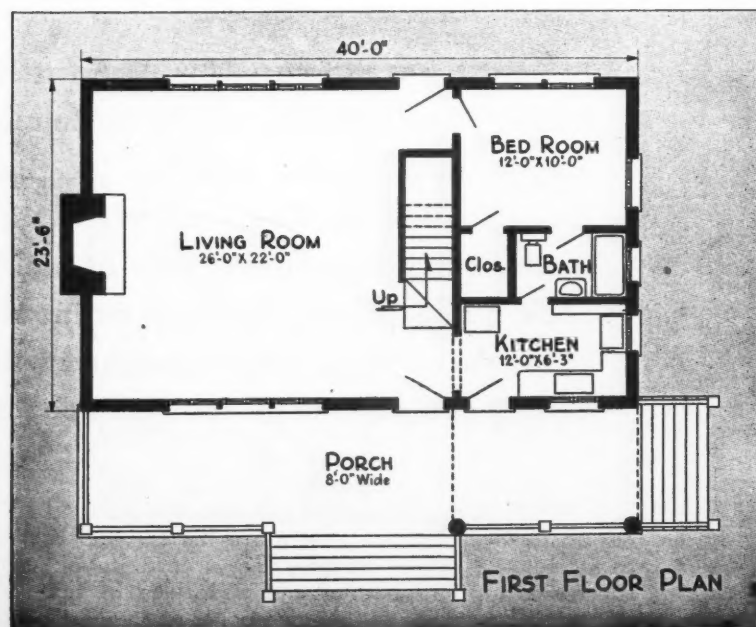
AMERICAN BUILDER  
*The Cost* FIGURES  
FOR THIS HOUSE  
ON PAGE

67

## WEEK-END RETREAT IN WILLOUGHBY, OHIO

**Grover and Dunlap, Cleveland, O.,  
Designers and Builders**

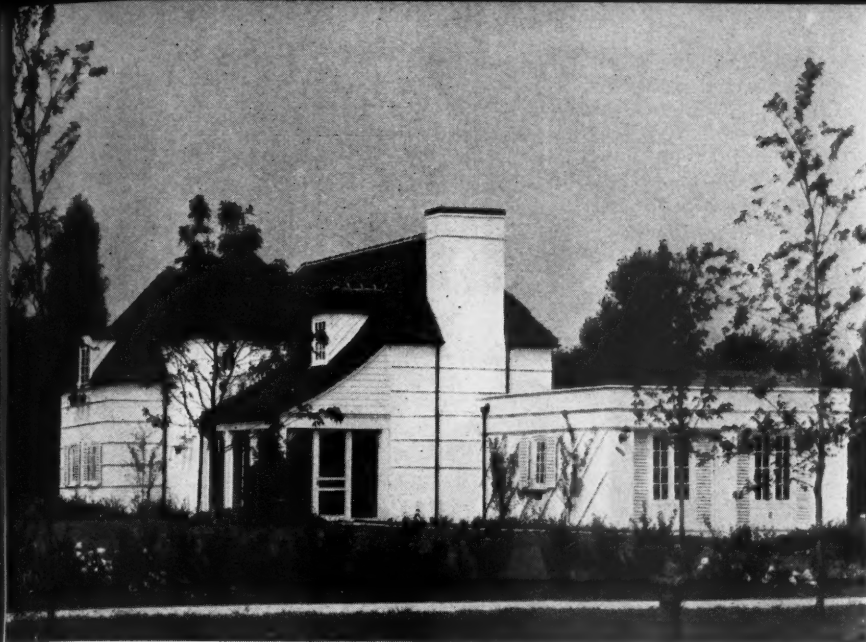
IN VARIOUS resort sections of the country which are close to the cities, many substantial country houses are being built that are planned for year 'round living. Such are the week-end homes built near Cleveland by Grover and Dunlap of that city, one of which is shown above, with interior views on the preceding page. Although rustic in appearance, this home is thoroughly insulated and has provision for quick heating. The large studio living room takes up more than half of the cubage; the stairway leads to a bedroom and a bunkroom placed directly over the first floor bedroom, kitchen and bath.



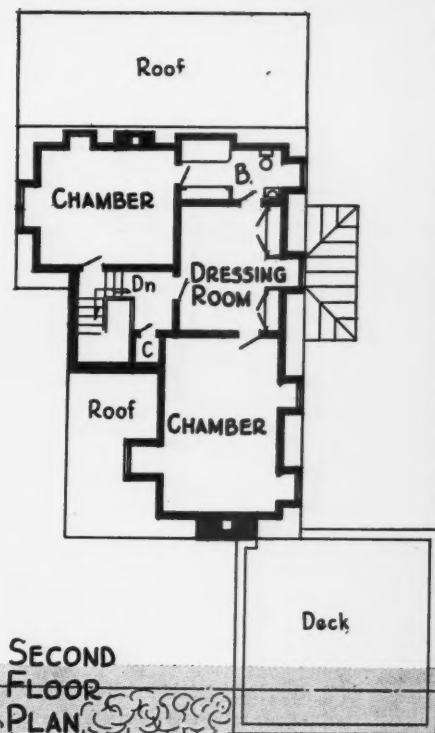
THE EXTERIOR first floor walls are of logs caulked with white compound and oakum; boards and battens of knotty pine are used above and the same material serves as interior wall finish in the rooms throughout. A 2-inch thickness of rock wool insulates the outside walls, 1/2-inch Masonite and 4-inch rock wool are used in the roof. The electric fan-equipped Heatilator in the living room fireplace assures positive circulation of heat from the gas or wood-fired grate. Westinghouse 2000-watt electric wall heaters supplement this source in bedrooms and bath.

Other construction features are: Foundation of concrete piles; asphalt shingle roof; water supply with Deming electric pump; Duo-Therm hot-water system; all copper Rolscreens; doors and windows weatherstripped in zinc; rubber-covered kitchen counters; linoleum on floor; all-electric kitchen; random-width select white oak flooring laid over Sisalkraft on a tongue-and-groove sub-flooring; Masonite walls in bath.

C appear-  
to this  
ne by the  
sive log  
gs and  
it fit per-  
s wooded  
Second  
om over-  
es shelter  
d of the  
could be  
desired.



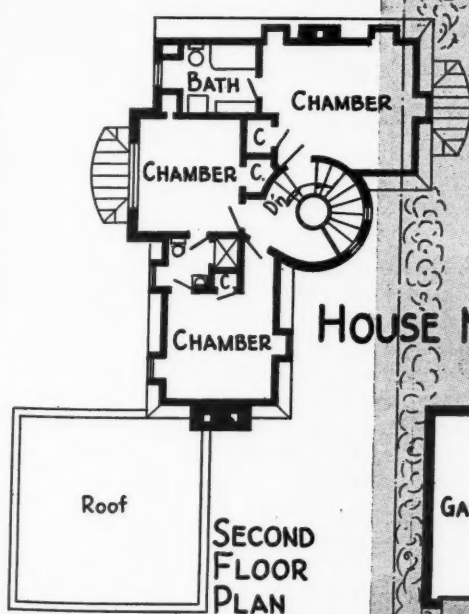
AS SEEN FROM THE STREET, the above view shows how these two River Forest homes have the advantages of good light and air and open outlook across the landscaped property.



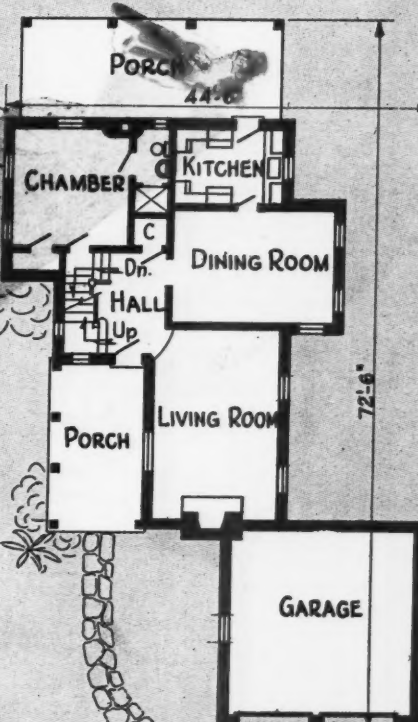
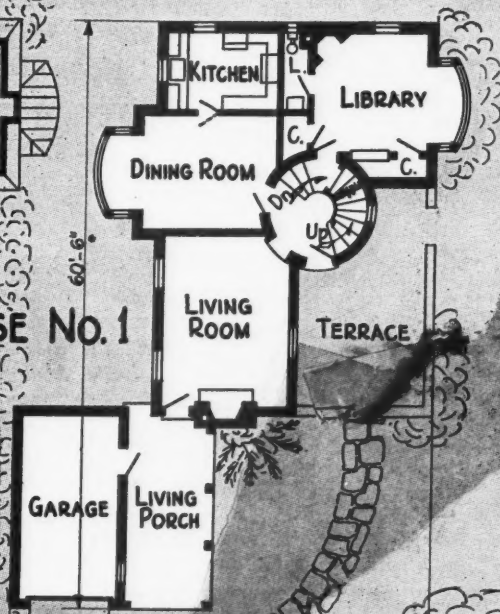
AMERICAN BUILDER  
*The Cost* FIGURES  
FOR THESE HOUSES  
ON PAGE

67

re close  
being  
are the  
d Dun-  
interior  
appear-  
provision  
akes up  
s to a  
ne first



HOUSE No. 1



HOUSE No. 2

0 5 10 15 20 25  
SCALE IN FEET

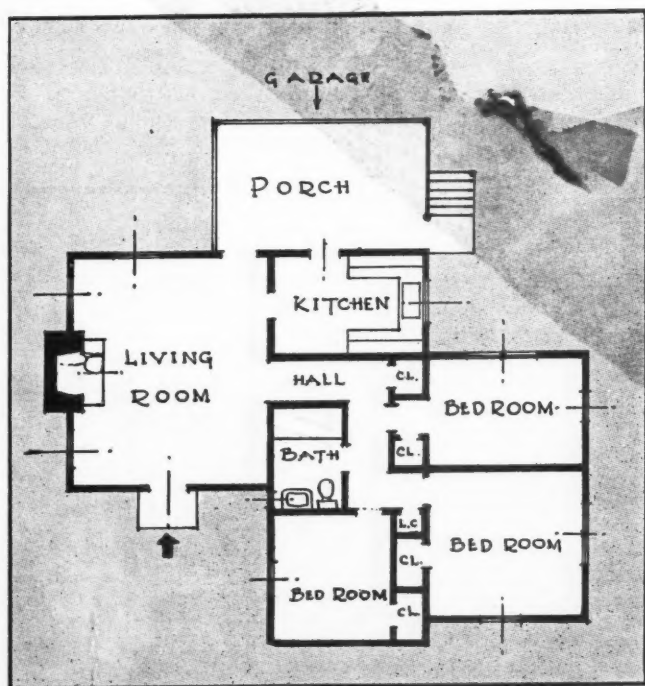
PLOT PLAN indicates arrangement of the two houses on the 110-foot front lot. Adjacent houses are placed on a line about even with the garage of House No. 2, allowing sun and views from House No. 1 across the rear yards. Unless staggered, there would be less than half the present distance from the windows of first floor bedrooms of House No. 2 to nearest wall opposite. Floor plans of both houses are very efficient.



ONE OF THE RUSTIC LOG CABINS that has made Lake Mohawk so popular. It has a solid log studio living room with 7-foot fireplace, floor-length windows and a splendid porch overlooking lake which can be used for living, sleeping and dining purposes. Roof consists of log slabs set on furring over waterproof roofing paper.

## "Banner Year for Cottage Builders,"—Crane

**Bargain in Financing Will Attract New Customers  
and Get Action from Old Prospects Held Back by  
Lack of Cash Payment**



SPLENDID COTTAGE PLANNING is shown in this floor plan (Scale 1/16"=1'-0") by Robert T. Crane. Note the large windows and the well-proportioned porch with a door to the kitchen.

AMERICAN BUILDER  
**The Cost FIGURES**  
FOR THIS HOUSE  
ON PAGE

67

*EDITOR'S NOTE—Progress in cabin and lake home construction is nowhere better illustrated than in the work of The Arthur D. Crane Company, specialists in this type of construction, whose successful Lake Mohawk development in the Sparta Hills of New Jersey showed a 100 percent increase in business the first two months of 1938 over 1937. In the following article, Robert T. Crane, vice president, points out 1938 opportunities for builders.*

**By ROBERT T. CRANE**

**T**HE job of the builder as we have found it at Lake Mohawk, may be divided into two major divisions, each of which is important to his financial success. The first step is the construction of potentially attractive houses representing *good value* for the price asked. The second step includes finding the buyer, making the sale and the return of the builder's investment so that the cycle may be repeated.

The accomplishment of the first step is the result of experience and perseverance. A thorough knowledge of the market, the services of a good architect, the careful buying of materials and labor enable us to produce houses that combine good looks with economy and high intrinsic value.

The second step is always the more difficult. You can create a desire to own, but too often, at least during the past few years, it has been impossible to turn that desire into a sale, because of the buyer's lack of sufficient cash



ROUGH SIDING AND COMMON BRICK make this all-year round home on Lake Hohawk fit its environment. Rough siding and roof shingles are stained grey. The trim is white with blue shutters. Cubic contents, 17,411.

and the builder's inability to arrange terms within reach of the buyer.

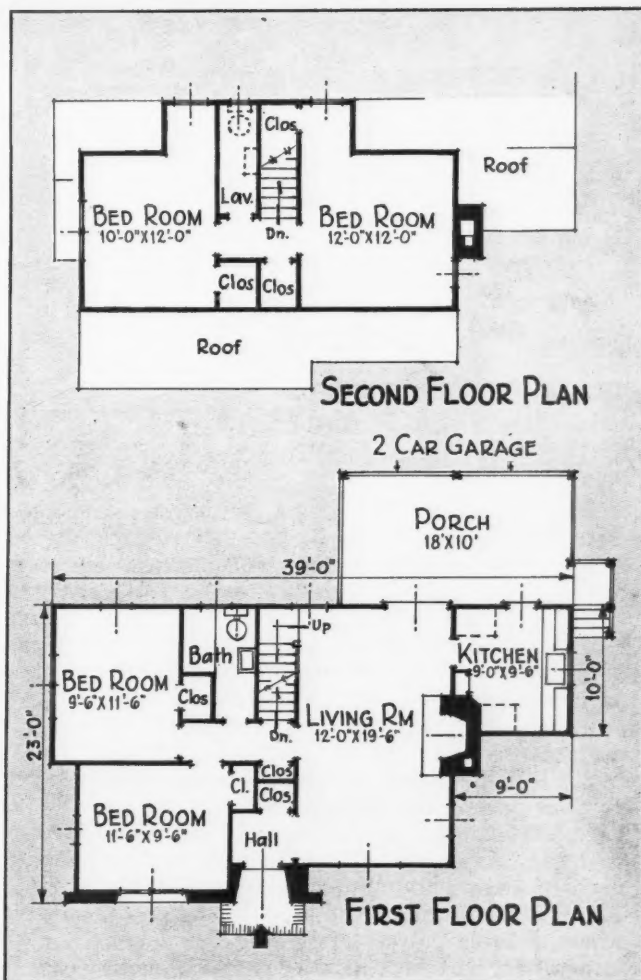
We all know that the financing made available under the original National Housing Act proved a stimulus to the builder. The amendments to the Act, which went into effect on February 4, 1938, have so broadened the possibilities that we are confident that 1938 will be a banner year.

Our business at Mohawk is the development of lakes and the building and selling of property so developed, and it will be materially helped in at least three ways by the new amendments.

The revival of Title I will again make financing available for remodeling, adding to and improving present buildings. We know there is money to be made in this kind of work. The best part of this type of work is that it opens the way for additional business with your old clients and gives you what the storekeeper calls "Repeat Business." Additional sales can be made without touching your "New Prospect" list. We did a considerable volume under the original Title I but know that the new low rates now applying will reduce sales resistance and get us jobs that were given up before, due to the owner's refusal to pay high financing charges.

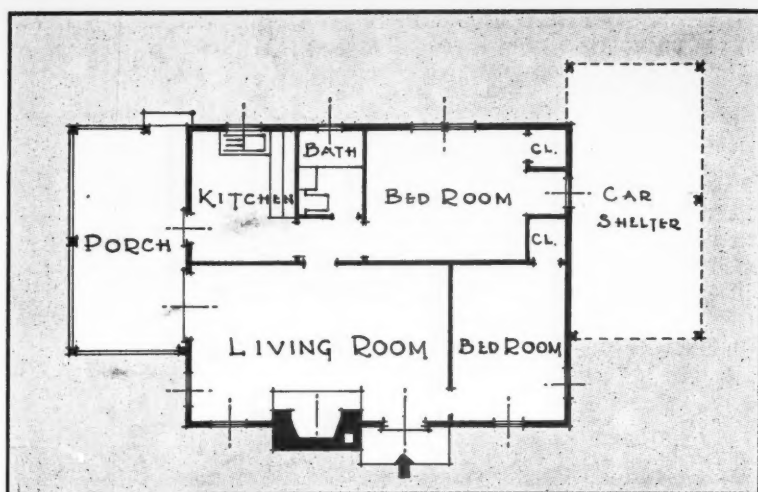
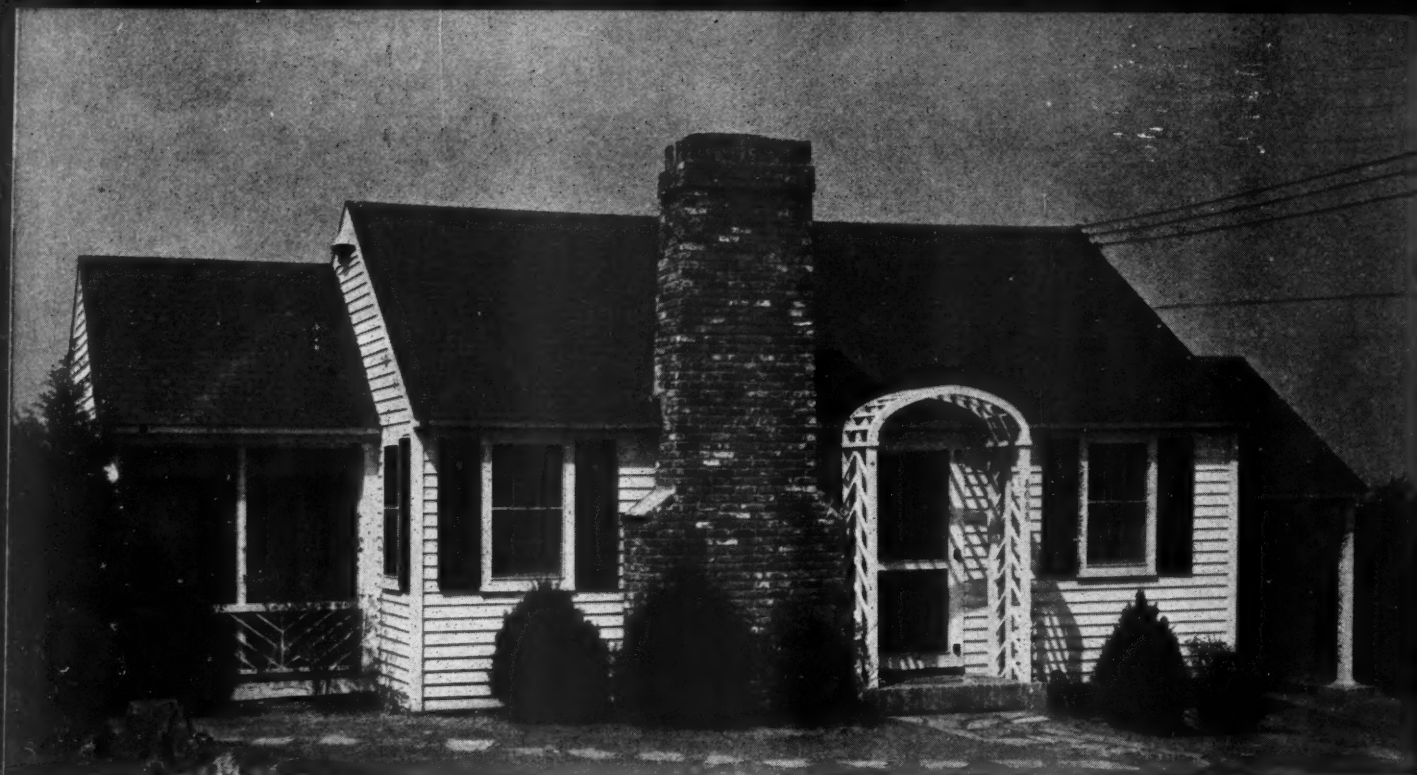
The second factor that will aid our business is the better financing now available on Summer or seasonally used homes. *Interest rates are lower and the term of mortgage has been extended to ten years.* This is particularly important to us but is of real value to all builders, since it also applies to barns, garages, service buildings, wayside stands, gasoline stations, and various industrial and commercial buildings. It is important because most buyers of this type of building want size and number of rooms and not elaborate cellars, expensive heating plants or finely finished interiors. Structures of this type were limited to five year mortgages with monthly payments frequently beyond the ability of the purchaser. When a building of the size desired was built to all-year specifications for longer financing, the price was then higher than the prospect would consider.

The third factor and the one that should account for the largest gain to the developer and builder is the cheaper financing now available on all year homes, under the



DESIGNED FOR A SLOPING LOT, this floor plan puts the porch toward the lake, where it should be, with doors leading to kitchen and spacious living room. Cellar provides 2-car garage, heater room and recreation room.

AMERICAN BUILDER  
The Cost FIGURES  
FOR THIS HOUSE  
ON PAGE



"COSY" IS THE WORD for this charming white Lake Mohawk cottage with its screened porch at one end and car shelter at other. It is a splendid example of high value at low cost. Plan scales 1/16"=1'-0".

6-FOOT FIREPLACE dominates the commodious living room. French doors open onto the screened porch, which also has a door leading to the kitchen so that the porch can be used for dining. There are 2 good bedrooms with large windows. The car shelter is an attractive feature which adds to the appearance of size without increasing cost greatly. The cubage is 10,070 cu. ft. Interior walls are knotty pine. Exposed rafters are of hand-adzed chestnut.

AMERICAN BUILDER  
**The Cost FIGURES**  
FOR THIS HOUSE  
ON PAGE

67

amended Title II. In addition, the lower percentage of cash required and the longer term of mortgage on \$6,000.00 to \$10,000.00 buildings will increase the number of people who can afford to buy homes.

All of these points should prove effective in re-interesting old prospects who may have been lost because of insufficient funds or inability to carry the mortgage payments under the original F.H.A. method. It should also prove a valuable re-entry to help revive interest in prospects who have failed to purchase for other reasons.

We look for a considerable increase in business from younger people who have a steady income but who have never had enough cash reserve to make a 20% down payment. Certainly \$600.00 in cash seems well within reach of many who felt they never could afford \$1,200.00. Many habitual renters can now be sold on the new plan, where monthly payments are almost as low as rent, and in addition, part each month is applied against principal and is a means of saving.

Both Title I and II as amended are temporary measures, and this fact can also be used in closing sales. Many people will buy only when they believe they are getting bargains. You can definitely offer a bargain in financing. This condition will only last for a little more than a year from now, since the amendments to the National Housing

Act are only to be in force until July 1, 1939.

We are making the most of this opportunity and know that with such real value to offer, sales can be made. This is reflected in over 100% increase in our building business for the first two months of 1938 over the corresponding months in 1937. A thorough knowledge of the values offered cannot help impressing prospective buyers. Our own advertising is also doubly effective because of the favorable publicity given to the public by the F.H.A. in every newspaper. The renewed enthusiasm of both buyer and builder is sure to combine toward making 1938 a record year.

#### Cottage Specifications

The four cottages illustrated with this article demonstrate the care and study given to Lake Mohawk cottages to provide modern comfort and livability and yet retain an informal, and sometimes rustic, air. Each cottage is especially designed for its site, with large windows placed to take advantage of the view. Porches are studied with particular care to provide maximum use. Experience has shown that most people want to dine as well as practically live on the porch, and for that reason a door

(Continued to page 112)



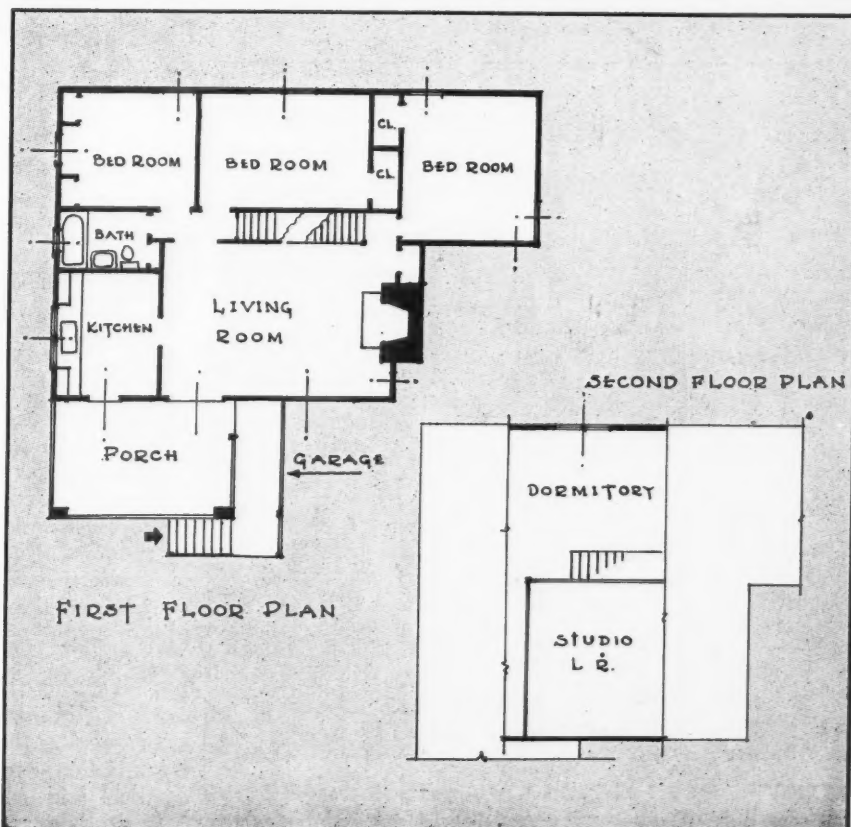
BUILT FOR SUMMER OR ALL-YEAR USE, this Mohawk cottage has large picture windows and an especially attractive porch with open walkway. The corner bedroom window is popular. Exterior is of stucco, with hand-adzed chestnut timbers and rough-sawn chestnut siding.

## Experienced Builders Give Higher Value In Lake Mohawk Cottages

AMERICAN BUILDER  
*The Cost* FIGURES  
FOR THIS HOUSE  
ON PAGE

67

IN ADDITION to the 3 bedrooms on first floor, there is a large balcony reached by stairs from living room, with adjacent dormitory space. Living room is of studio type, with picture window and interior walls of pecky cypress. Garage is under porch. Cubage, 16,574 cu. ft. Scale 1/16" = 1'-0".

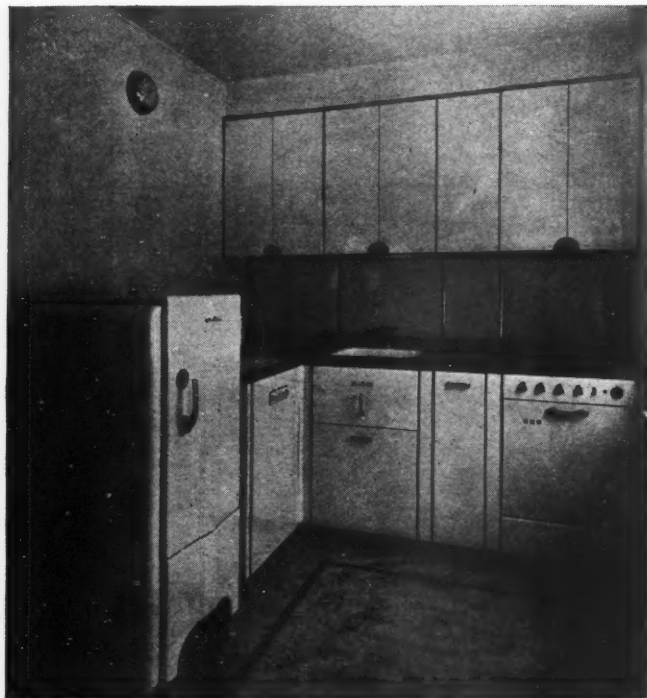




FULLY INSULATED, electrically equipped small home built near White Plains by County Homes, Inc.

## Dry-Wall Homes for \$43.85 Per Month

**David Swope, Son of G-E Head,  
Enters Low-Cost Home Field in  
Expensive Westchester County,  
N. Y., with Quality Small Houses**



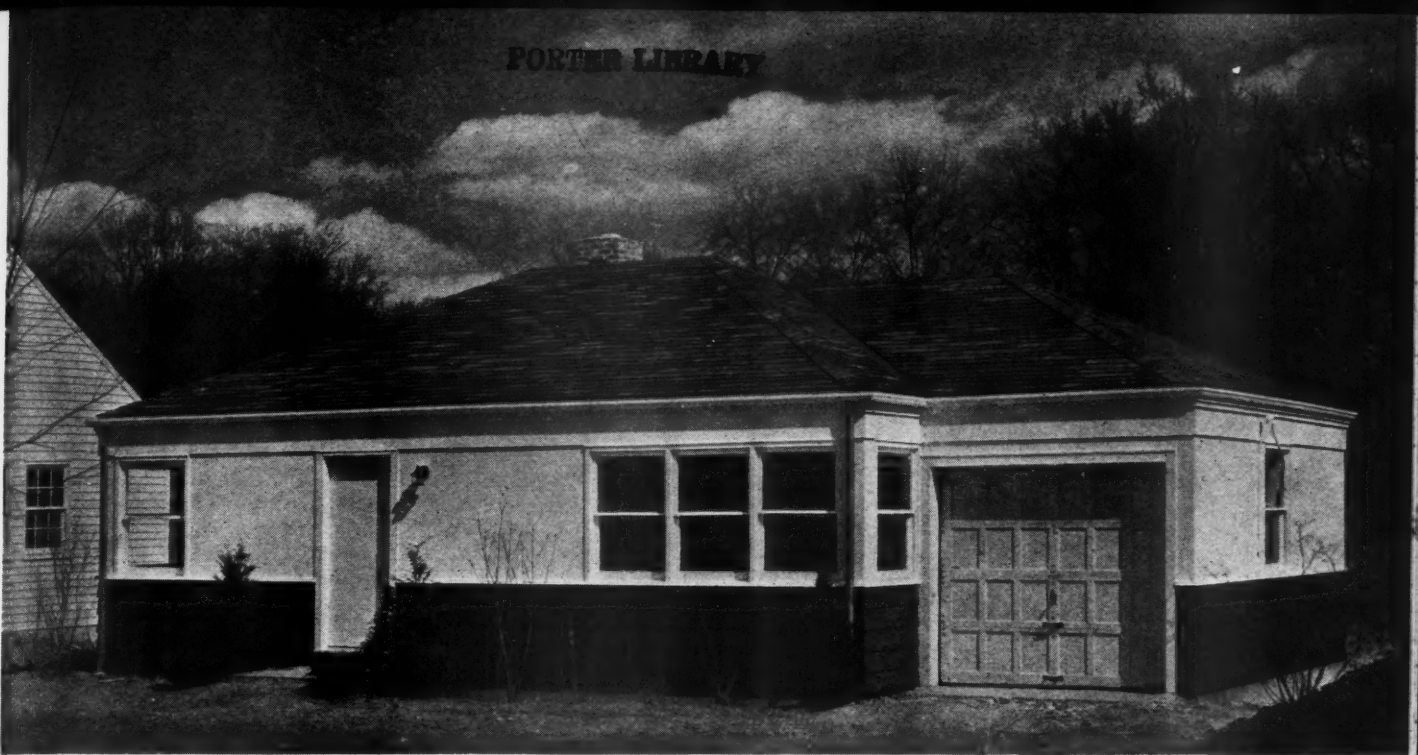
MODERN G-E UNIT KITCHEN is equipped with General Electric cabinets, dishwasher, range, garbage-disposal sink and refrigerator.

**W**ESTCHESTER County, N. Y., has long been noted for its expensive homes and high building costs. A remarkable change in practice is indicated, therefore, by the fact that a half dozen low-priced home developments have been started there in the past few months. One of the most noteworthy is Fulton Park, a residential community within walking distance of the center of White Plains, built by County Homes, Inc., of which Everett Jacobs is president and David Swope vice president and treasurer. Fifteen homes were under construction early in April and orders for more than this number had been placed by buyers in the few weeks that the project had been open to the public.

It will come as interesting news to many builders that they have a new recruit to their "fraternity" in the person of David Swope, the young son of the president of General Electric. David Swope has made it clear that it is his purpose to create a business of his own along lines of his own choosing—and he has picked the low-cost home field. Building operations are managed by Samuel Keeler, and the houses are designed by Victor Civkin, New York architect.

David Swope and his associates in County Homes, Inc., have made a thorough study of small home construction. Swope has been a thorough student of various scientific developments in home construction and built a house of his own near Ossining, in which he put to a practical test his ideas. He reports that he has been an *American Builder* reader for some years.

One of the outstanding features of the Fulton Park homes is the use of plywood exclusively for interior walls. Plaster is completely eliminated, making possible more rapid and satisfactory construction, with future plaster cracks eliminated. An effective system has been devised for treating the joints so that the plywood walls may be painted or papered without revealing the point where the panels join. The plywood is both glued and nailed to the studs at these points to give a good job.



MODERN TOUCH is given this low-cost home without sacrificing its practical plan, which is the reverse of house on opposite page.

The construction program has also been worked out in a systematic manner with small crews specializing in each important operation. Enough houses are under construction at one time to permit the development of considerable efficiency and a consequent lowering of construction costs.

Good products with big names are part of the County Homes plan. Their advertising and their houses feature G-E wiring, refrigeration, heating and kitchen equipment. Other products extensively featured are Johns-Manville insulation and siding; Anaconda copper for pipe and flashing; American Radiator Company concealed radiation; Sargent hardware; Pittsburgh Plate Glass Company paint; Standard Sanitary bathroom fixtures, valves and plumbing; U. S. Gypsum roofing; Armstrong linoleum. Upward acting garage doors are by McKee Door Company of Chicago, Ill.

A good feature of the design is the dining room-kitchen layout as indicated on the plan below. The kitchens feature the General Electric unit kitchen, using standardized sections including cabinets, electric range, dishwasher, refrigerator and Disposall sink. Selection of all of these items of equipment is optional with the home owner, but the builders stress the fact that for an extra cost of only \$1.75 per month on the amortized mortgage, the home owner can have the complete, modern electric equipment that does much to make for better living.

The Fulton Park houses are located on 60 x 100 foot lots in an attractive community within easy walking distance of the center of White Plains. The fact that they can be purchased on the FHA plan for \$43.85 makes them highly desirable in competition with the local high-priced rents.

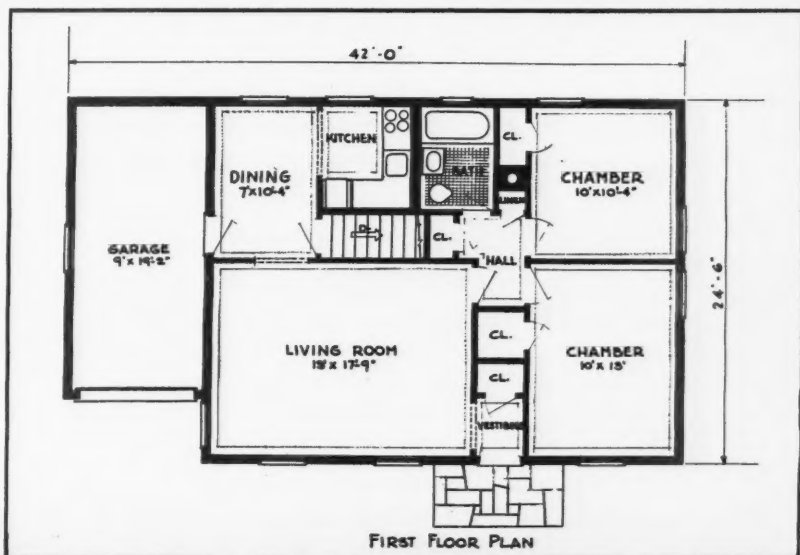


67

TYPICAL FLOOR PLAN shows unusually fine planning, with large living room, 2 good bedrooms and an efficient dining room-kitchen. The architect is Victor Civkin of New York.



ON THE JOB, with 15 houses under construction. From left to right, Sydney M. Rogers; Samuel Keller, builder; Everett Jacobs, president; and David Swope, vice-president and treasurer, County Homes, Inc.



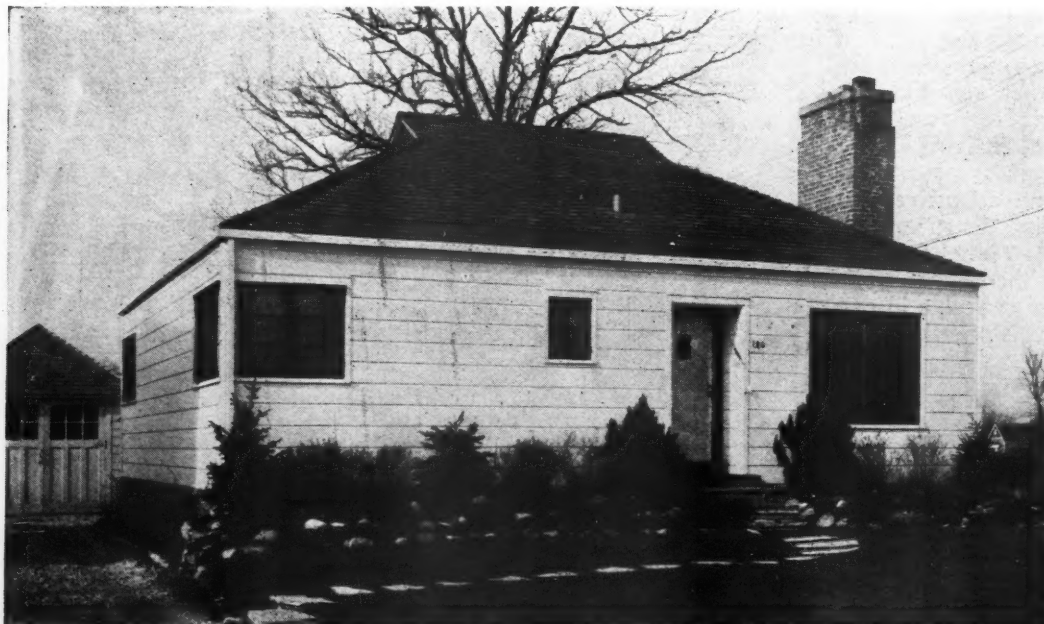
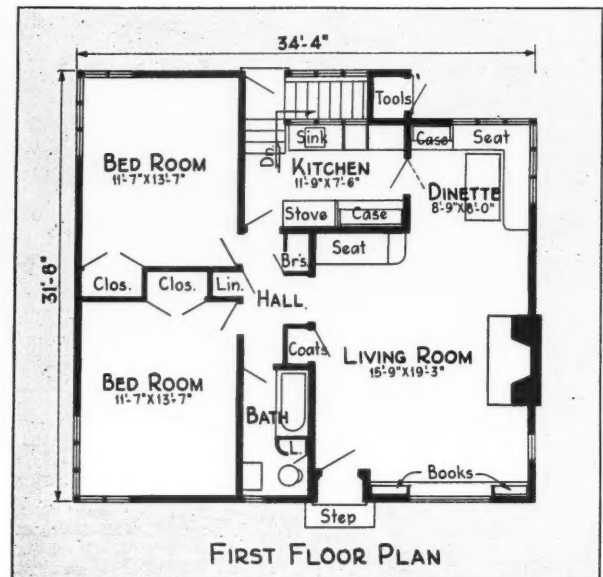


WIDE cypress bevel siding, recessed entrance, corner windows and large chimney are prominent details of exterior treatment. In plan the rooms are of good size and proportion, the living room having appearance of added spaciousness due to adjoining dinette. There is good circulation without excessive hall area. Many built-in features give added convenience.

## MODERN COTTAGE WITH PLYWOOD INTERIOR

**A. Carani, Builder and Owner**  
**Dubin and Dubin, Architects, Chicago**

IT IS ALWAYS interesting to see the type of house which a builder chooses for himself. This compact modern house combines many of Builder Carani's own construction and layout ideas. Plywood was selected as interior wall finish throughout including the kitchen;  $\frac{3}{8}$ -inch birch-faced panels ceiling-high are finished natural with lacquer, varnish and wax. Joints are slightly V-grooved and plywood is face-nailed to studs, the holes being filled. Besides offering a modern decorative treatment, minimum redecorating costs are assured. House is located in Highland Park, Ill.



AMERICAN BUILDER  
**True Cost** FIGURES  
FOR THIS HOUSE  
ON PAGE

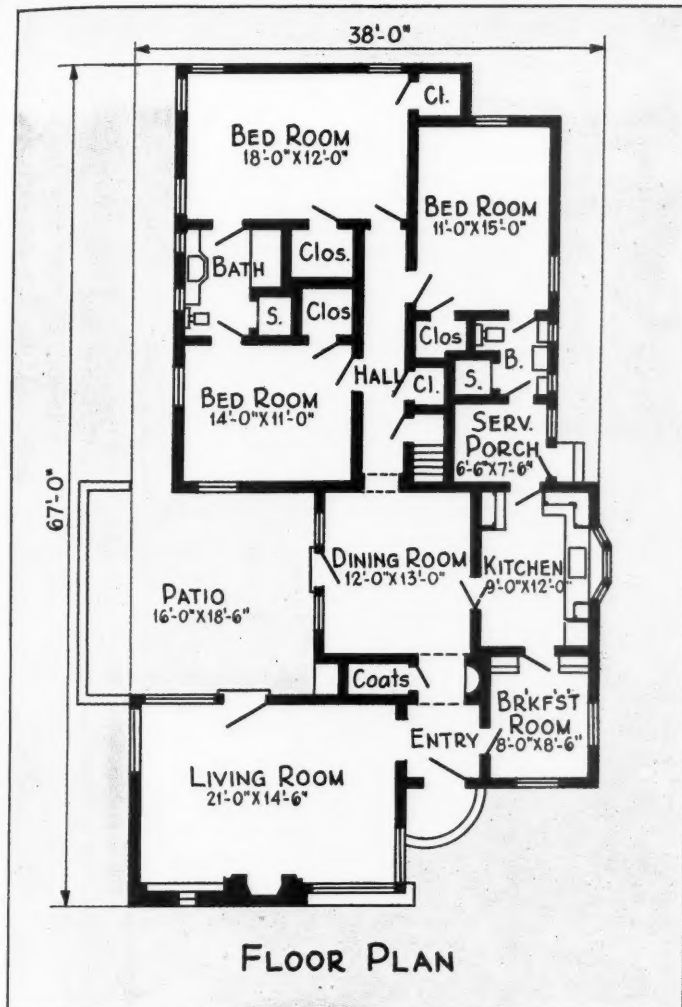
67

**OTHER** construction and equipment items include Celotex sheathing and Balsam-Wool in outside walls; metal lath with sand float finished plaster ceilings; rock wool batts above; red cedar shingle roof; U.S. steel furnace and winter air conditioning system; cork block floor in bath and Kohler fixtures; two compartment kitchen sink; custom flush lighting fixtures.

# CALIFORNIA BUNGALOW OF 7 ROOMS DESIGNED FOR A 50-FOOT LOT

**Built in Los Angeles by Homes Inc.**

**Designed by Nelson P. Bengston**



AMERICAN BUILDER  
**True Cost FIGURES**  
FOR THIS HOUSE  
ON PAGE

67

LIKE THE DESIGN on the opposite page, the house below has a clean-cut appearance and is detailed in a modern manner. Low, horizontal lines are accented with living room corner window and front entrance providing a center of interest. The plan is arranged in Southern California fashion—good ventilation and enclosed patio for outdoor living being typical of houses in that section. A breakfast room of generous size is entirely separated from the kitchen and might be used also as a study or extra sleeping room. Connecting baths give good circulation to the rear of house.

THE EXTERIOR is stucco over wood frame except the brick section flanking the chimney; the two materials are especially well combined. Roof is red cedar shingles; floors are of oak. Unit heaters are installed in principal rooms. The bathroom is floored with rubber tile and walls are finished in Bak-A-Namel, this product also being used in the kitchen. Tile drainboard and backsplash, monel metal cabinet top at range and revolving ant-proof cooler are other kitchen items.

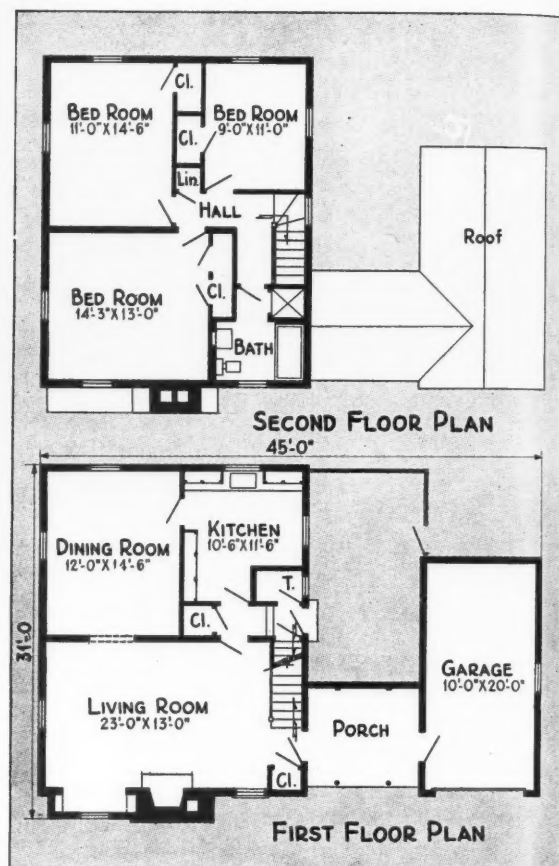




THE COLONIAL CHARM of Old Williamsburg was embodied in this model home designed by Kimball and Husted and built at Port Washington, N. Y. Living room above features a simple, Colonial mantel and an especially attractive window seat with built-in bookcases. The house itself is a compact design, increased in size by the attached garage, and designed for a corner lot. The walled court at rear, between the garage and kitchen, is an unusual and attractive feature.

## "WILLIAMSBURG HOUSE"

Kimball and Husted, Architects



ALTHOUGH main part of the "Williamsburg House" is only 24 x 29 ft., an appearance of size considerably greater than this is achieved by the design. The living room, with its large fireplace and attractive window alcove, has a spacious appearance. The covered porch connecting entrance and garage is attractive.

AMERICAN BUILDER  
**True Cost FIGURES**  
FOR THIS HOUSE  
ON PAGE

67

UPSTAIRS, the "Williamsburg House" has 3 good bedrooms with unusually well laid out closets. Rooms are well lighted and cross ventilated.

# TruCost

## Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	June, 52	June, 54	June, 57-1	June, 57-2	June, 58	June, 59
Basement Walls, lin. ft.	127	128	158	156	152	124
Trench Walls, lin. ft.	56	44	102	161	0	0
Basement Floor, sq. ft.	940	824	1054	1050	1074	740
Garage Floor, sq. ft.	0	200	240	441	0	0
Excavation per ft. deep, cu. yds.	44	39	52	57	45	21
Outside Walls, squares	21.8	19.0	27.9	30.1	17.4	16.5
First Floor, squares	9.4	8.3	10.5	10.5	10.7	7.4
Second Floor, with Fin. Flg., sqs.	4.5	5.2	8.3	7.7	0	3.7
Second Floor, without Fin. Flg., sqs.	0	2.2	1.4	1.9	0	1.9
Ceiling, sqs.	0	10.3	9.1	13.0	10.7	7.4
Roof Pitch, in. rise per ft. run	14"-12"	10"	16"	16"	8"	14"
Roof, squares	21.1	13.8	18.6	30.5	17.0	12.3
Hips and Valleys, lin. ft.	68	18	112	240	0	0
Cornice, type and size of, lin. ft.	24"-220	C & F-198	C & F-190	C & F-356	24"-198	C & F-132
Cornice, type and size of, lin. ft.	0	0	0	0	0	8" 82
Partition, lin. ft.	117	185	164	138	131	145
Inside Finish OS Walls, lin. ft.	195	215	292	300	152	172
Front and OS French Doors, opps.	2	2	2	3	2	2
Rear and Grade Doors, opps.	1	1	2	1	1	1
Garage Doors 8' wide	0	1	1	2	0	0
Inside Doors and Cased Opps., opps.	9	15	17	14	10	17
Windows and Casements, opps.	20	14	29	20	12	17
Gable Sash and Louvres, opps.	0	0	0	0	0	0
Chimney, lin. ft.	34	30	36	36	30	32
Main Stairs	1	1	1	1	0	1
Porch Floor, sqs.	3.2	0	1.8	5.3	1.8	2.2
Porch Ceiling, sqs.	1.1	0	1.8	5.3	1.8	2.2
Porch Beam, lin. ft.	30	0	32	73	38	42
Porch and Balcony, Post and Newels, No.	10	0	4	8	3	7
Porch Roof, sqs.	0	0	4.2	0	3.2	2.7
Porch Cornice, lin. ft.	0	0	82	0	44	48
Porch and Deck Rail, lin. ft.	60	0	0	0	34	48

Unit of Construction	June, 60	June, 61	June, 63	June, 64	June, 65	June, 66
Basement Walls, lin. ft.	114	172	114	132	234	110
Trench Walls, lin. ft.	0	0	39	0	8	84
Basement Floor, sq. ft.	800	884	796	1048	1789	712
Garage Floor, sq. ft.	0	200	190	0	0	231
Excavation per ft. deep, cu. yds.	34	45	38	44	75	37
Outside Walls, squares	12.8	15.2	15.1	12.6	22.2	27.3
First Floor, squares	8.0	8.6	8.0	10.5	17.9	7.1
Second Floor, with Finish Flg., sqs.	0	0	0	0	0	7.1
Second Floor, without Finish Flg., sqs.	0	0	0	0	0	0
Ceiling, sqs.	8.0	6.2	9.9	10.5	17.9	7.1
Roof Pitch, inches rise per ft. run	8"	10"	10"	7"	5"	10"
Roof, squares	10.3	12.1	13.7	13.0	21.6	13.9
Hips and Valleys, lin. ft.	0	22	0	128	168	10
Cornice, type and size of, lin. ft.	C & F-130	C & F-158	C & F-185	C & F-132	8"-234	C & F-92
Cornice, type and size of, lin. ft.	0	0	0	0	0	8"-112
Partition, lin. ft.	89	116	143	112	240	163
Inside Finish OS Walls, lin. ft.	114	132	133	132	234	216
Front and OS French Doors, opps.	3	2	1	1	3	1
Rear and Grade Doors, opps.	1	1	0	2	1	2
Garage Doors, 8' wide	0	1	1	0	0	1
Inside Doors and Cased Opps., opps.	7	13	14	10	20	16
Windows and Casements, opps.	9	15	11	22	27	17
Gable Sash and Louvres, opps.	2	2	1	0	0	0
Chimney, lin. ft.	28	30	28	28	24	38
Main Stairs	0	1	0	0	0	1
Porch Floor, sqs.	1.8	2.2	0	0	0	.9
Porch Ceiling, sqs.	1.8	1.8	0	0	0	.9
Porch Beam, lin. ft.	84	36	0	0	0	20
Porch and Balcony Post and Newels, No.	10	4	0	0	0	2
Porch Roof, sqs.	5.4	2.3	0	0	0	1.4
Porch Cornice, lin. ft.	90	44	0	0	0	20
Porch and Deck Rail, lin. ft.	38	60	0	0	0	0

## Necessary Home Equipment, Fixtures, Accessories, Extras

Since the above surveyed items cover only the actual superstructure of the house, you should figure and add the following items as specified or wanted (and don't forget Overhead and Profit):

Areaways, Cellar Sash, Coal Chute, Basement Partitions & Doors, Attic Flooring, Attic Stairs, Blinds, Gutters & Downspouts, Fireplaces,

Built-in Cabinets, Rail & Newels for Stairs and Stair Well, Beamed Ceiling, Weatherstrips, Tile Work, Plumbing, Heating & Air Conditioning, Lighting, Terraces, Patio Walls or Fences, Sidewalks including Porch Steps, Driveways, Unattached Garages. Also add for painting and decorating if not included in Unit Costs.

# TruCost

## How American Builder's Estimating System Prevents Expensive Errors

By A. W. HOLT



"HE who makes no mistakes does nothing—he who makes too many loses his job (or his shirt)" is a truism that I shall never forget. And how well I remember an early experience when I extended an item as \$12.00 when it should have been \$120.00. That was on a detailed list, however, and one of the main reasons why I concluded twenty years ago that I could not afford to take chances on detailed-list-of-material estimating alone. That method is all right if anyone wishes to use the hard and hazardous ways of the pioneers in this age of speed and "precision accuracy."

The human equation of "tendency to err" will always be with all who are connected with the most important part of the contracting business—estimating costs of a proposed building—for all time. All that can be hoped for is the abandonment of obsolete, haphazard methods that befuddle one's brain and causes every estimator to say a silent prayer—"I hope I haven't forgotten anything"—when the bid is handed in. I'll bet that a certain Cedar Rapids, Ia., contractor, whom I will call Mr. Blank, will always pray that way in the future after his recent experience.

### "He's Low Bidder On New City Market, But Doesn't Want Job"

The above glaring headlines on the front page of the Cedar Rapids Gazette of April 18th tell a story that is typical of many similar experiences that adver-

tise to the world that all too many in this building industry can still be inveigled into submitting a bid on a proposed job where there is no "E&OE" inserted to protect them. This "E&OE" is supposed to mean, "errors and omissions excepted." If that is so, Mr. Blank should have that printed on all of his stationery because, according to the news report in paper:

"Mr. Blank, local contractor, was low bidder on the city's new marketplace when bids were opened Monday but he has not been awarded the contract and if he has his way, he'll never get it. In fact, he's sorry that he ever heard of the marketplace . . . offered to do the job for \$1,315.00—an unusual proposition in view of the fact that the next lowest bidder was \$1,953.00. . . . The seven other bids ranged as high as \$2,350.00. . . . Building Inspector O. L. Leefers immediately sensed some mistake in Blank's bid because the necessary material will cost considerably more than \$1,315.00. . . . Blank had a \$250.00 certified check on file and under the law, strictly applied, the council could forfeit that check if Blank refused to erect the building. Inspector Leefers was confident Blank would be money ahead to forfeit the check and charge the thing to experience."

That word "experience" is, like fire, water and a lot of other things, quite necessary—in its place. But those who depend entirely on Old Man Experience to teach and direct them will have to expect to pay the high tuition fee demanded as well as take a long time to learn enough to graduate. Even a jolt like Mr. Blank had to take frequently fails to warn others that the most important phase of the contracting business is their estimating department. Estimating will make or

break contractors. Perhaps that's why it is said that more than 90 per cent of contractors go broke. Even omitting Mr. Blanks' blankety-blank bid, the 20 percent range of the other eight is ridiculous. They were listed in the local paper as follows:

Mr. Blank's bid.....	\$1,315.00
Contractor A .....	1,953.00
Contractor B .....	1,995.00
Contractor C .....	1,999.99
Contractor D .....	2,063.00
Contractor E .....	2,170.00
Contractor F .....	2,228.00
Contractor G .....	2,284.00
Contractor H .....	2,350.00

It's just too bad that such things continue to happen in this so-called age of enlightenment. It's too bad for the good contractors as well as expensive for the bad boys that won't learn their lesson before they start to recite. It's just too bad in every way except that Uncle Sam can never claim that Cedar Rapids contractors are in collusion, nor can get them for violating any anti-trust act. But what does this lone advantage amount to as compared to the disadvantage of undermining public confidence in builders generally and encouraging prospective builders to shop around in hopes that they may find someone who knows the least about his actual costs and makes the most mistakes so they can grab his certified check and call it a contribution to their building fund with which to pay a competent builder. This common strategy was evidenced by the following excerpt from that same newspaper of April 19th:

"In a letter to the council, City Attorney Don Hines said if Blank refuses to do the work, the job can be awarded to the next lowest bidder . . . the check of \$250.00 must be forfeited . . . if he fails to execute the contract and bond to perform the same." Deducting \$250.00 from the next lowest bid of \$1,953.00 will still make that marketplace cost only \$1,703.00 or 15% less than the average bid of the other eight, which is \$2,030.30.

Is it any wonder that the cost item of "bond" is so high? Why should competent builders be penalized for the mistakes of the unfortunates who, being human, are apt to err? If "E&OE" really means "errors and omissions excepted," those letters should preface all bids by a large percentage of contractors who use such short-cuts as "Cubical Contents," "Square-foot-of-floor Guestimates" or any other unsound or "lax" method.

TruCost, which was introduced in the May *American Builder*, is anything but lax. This method is based on the essential "surface measurement" and "actual count" that cannot fail to minimize expensive errors, promote confidence of everyone concerned and reduce charges by bonding companies. If such large mistakes can happen on a simple structure like that Cedar Rapids marketplace, which likely has only a floor, walls, roof and a few miscellaneous units of construction, what can happen on a house where 200 or more items are involved, each of which presents a chance to err in listing, pricing, extending and adding?

#### 20 Units—232 Items

TruCost is ten times safer, ten times quicker and ten times easier than the old laborious list-of-material method if there is anything to the law of averages. I just counted the items listed for three houses. One had 197 items of materials as compared to 19 units of construction; another had 232 items for 20 units and

the third one showed 233 items for its 28 units of construction. This last one is "The Sandusky" design of National Plan Service, illustrated herewith, which was selected because it involves an incorporated garage, porches and "fold-down ceilings." By explaining how the "Unit Quantity Survey" was made for this particular plan everyone can understand why he can have utmost confidence in TruCost and, what's more, can survey the units required for other than *American Builder* plans so as to safeguard the pocketbook as well as the reputation of all who submit a bid on practically any job.

As explained in my May article, TruCost is based on the indisputable principle that "actual surface multiplied by the accurate LOCAL COST per square of surface will give the accurate cost of each component unit of a building." Tables were given for frame construction that will enable anyone to compute his local unit cost of per square, per linear foot or per piece, as shown by the tabulation (page 59—May) of "Unit Quantities" for all May *American Builder* designs. Thus it is only a matter of simple arithmetic to TruCost a house such as the following computation of the walls:

19.3 squares of wall at, say \$24.02 = \$463.60.

If the wall surface is correct and the price per square is accurate, the result must be accurate if ordinary care is exercised. More than 20 years of the acid test of time and actual results have proved the dependability of this TruCost principle. So that all may understand what each of these units of construction include, each item shown beside the plan will be explained in detail.

#### How TruCost Units Are Surveyed

The 107 linear feet of basement walls (The Sandusky, page 70) is the outside measurement exclusive of the rear porch and the garage. This makes the largest possible basement, which will be an invariable rule even though a design may show a basementless floor plan. Personal choice and local or climatic conditions usually govern the inclusion or omission of the basement.

The 61 linear feet of trench walls is the total of 8'6" for the rear of the rear porch, 8'6" as the balance of the rear wall of the garage, 12'0" in front of the garage, 27'0" for the right wall, and 5'0" for the front stoop. In case the basement is to continue under the rear porch as a coal room, or in case the basement is rectangular and will not project under the kitchen projection back of the garage, it is a simple matter to add to or deduct from each of these two items.

The 621 square feet of basement floor is the gross area including whatever thickness the basement walls may be. This must be because of the variation of local practice or requirements of building codes and other local factors. In case the basement walls are 12 inches thick, the actual basement floor surface can be reduced as many square feet as there are linear feet of basement walls. In this case, 107 square feet less. If the walls are 10 inches thick, deduct 5/6 square feet per linear foot of wall; if 8 inches thick, 2/3 square feet per linear foot. Many practical builders have found that this gain of basement floor will cancel the cost of the cellar sash usually required or expected. Try this cancellation and see. Cellar sash are not listed because personal choice frequently governs even if a basement plan is shown.

The garage floor was figured 12'6" by 19'6" for the 244 sq. ft. or, as for basement walls, including whatever the thickness of the trench walls may be. This also typifies the predominating rule of figuring on the safe side.

The 32 cubic yards of excavation per foot of depth is the result of 621 sq. ft. of basement floor plus 107 linear feet of basement wall—to make the excavation one foot larger all around—plus 122 for the 61 linear feet of trench walls figured 24 inches wide automatically to cover the usual double cost of trench excavation. Adding gave 850 square feet of excavation area which, divided by 27 cu. ft. per cu. yd. equals closer to 32 cu. yds. than 31. Multiplying by the depth required by the building site (if not filled instead of excavated) will give the yardage to excavate for this house.

The 19.3 squares of outside wall is the actual wall area with no deduction for openings. Some estimators may deduct for the garage door, triple windows and other large openings. This is also left to individual choice but, if such deductions are made, the cost per square for wall finishes should be increased at least 10 percent from that given in the May issue, which are based on gross surface.

The 6.3 squares of first floor is the result after multiplying 34 by 28 and deducting 17 for the one foot recession of the garage, 244 for the garage floor and 60 for the rear porch, leaving a net first floor area of 631 sq. ft. of first floor which, again, is based on outside dimensions.

The 4.4 squares of second floor was derived by multiplying the width of 15 feet by the depth of 29 feet. As indicated by the roof over the front door, this second floor projects a foot beyond the living room

wall and 2 feet in front of the garage doors—a very good feature. Since all floor plans are drawn to the same scale and then reduced proportionately, such extensions of second floors can be detected by comparing the respective dimensions of first and second floor plans. Measure these two floor plans and see how the second floor is deeper than the first.

Even though the word "storage" indicates an attic floor over the kitchen, abiding by the invariable rule that "attic floors are extra," this is listed as ordinary ceiling which consists of ceiling joists, insulation (if wanted) and the ceiling finish. This construction is almost identical to the false partitions on the left side of these bedrooms and closets. Therefore, this partition was included in the 12 squares of ceiling, the same as is done for all "fold-down" ceilings for 1½ story houses. This makes the 8 foot finished-one-side partition to add to the 15 foot ceiling to multiply by 29 feet in depth for 667 sq. ft. of ceiling and left partition for the bedrooms. The ceiling over the first floor rooms will be 34 less 15 or 19 feet wide and 28 feet deep for 532 sq. ft. Adding to 667 sq. ft. makes a total of 1,199 sq. ft. of ceiling area, including the finished-one-side or false partition.

The diagram illustrates how the ceiling plus finish under the rafters plus the false partitions equal the same area as the total second floor area for 1½ story houses where the rafters start at the ceiling joists. Slight discrepancies will result, depending on the pitch of the

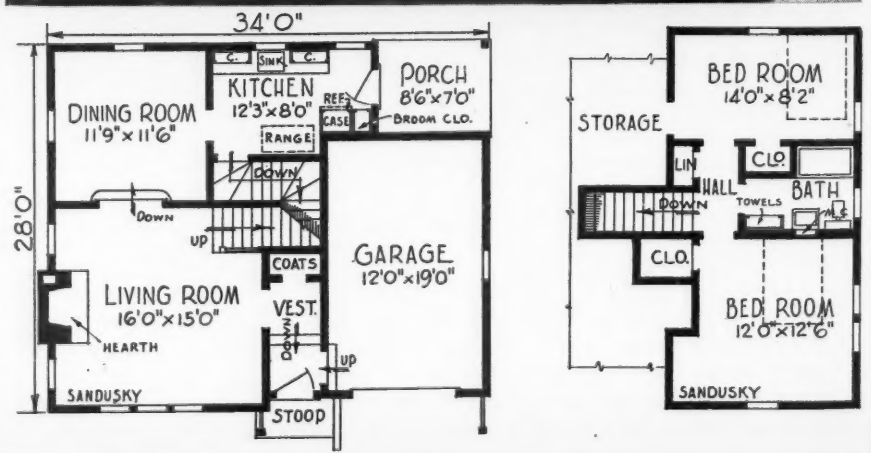
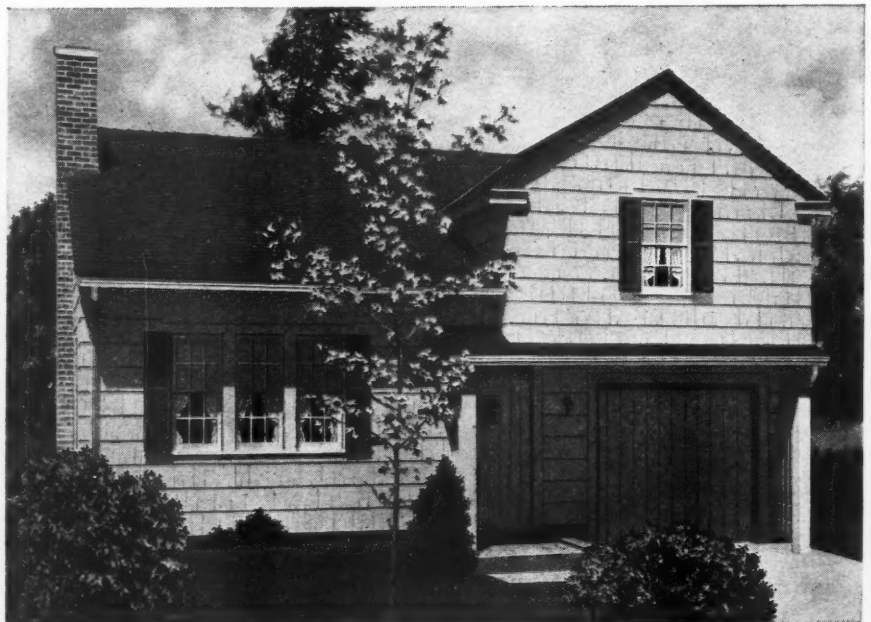
## "The Sandusky"

Designed by The National Plan Service, Inc., Chicago

"TruCost" Estimating Figures

### UNIT OF CONSTRUCTION

Basement Walls, lin. ft.	107
Trench Walls, lin. ft.	61
Basement Floor, sq. ft.	621
Garage Floor, sq. ft.	244
Excavation per ft. deep, cu. yds.	32
Outside Walls, squares	19.3
First Floor, squares	6.3
Second Floor, with Finish Flg., sqs.	4.4
Second Floor, without Finish Flg., sqs.	0
Ceiling (Attic Flg. and Stair extra), sqs.	12.0
Roof Pitch, inches rise per ft. run	8"
Roof, squares	13.6
Hips and Valleys, lin. ft.	20
Cornice, type and size of lin. ft.	C. & F. 60
Cornice, type and size of lin. ft.	8" 124
Partition, lin. ft.	134
Inside Finish OS Walls, lin. ft.	183
Front and OS French Doors, opps.	1
Rear and Grade Doors, opps.	1
Garage Doors 8' wide	1
Inside Doors and Cascd Opps., opps.	11
Windows and Casements, opps.	16
Gable Sash and Louvers, opps.	1
Chimney, lin. ft.	32
Main Stairs	1
Porch Floor, sqs.	.7
Porch Ceiling, sqs.	.7
Porch Beam, lin. ft.	16
Porch and Bal. Post and Newels, No.	3
Porch Roof, sqs.	0
Porch Cornice, lin. ft.	0
Porch and Deck Rail, lin. ft.	4



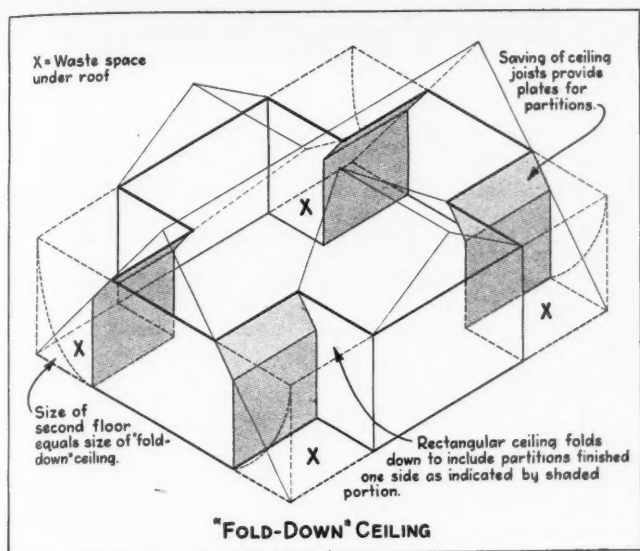


Diagram illustrates short cut "TruCost" method of figuring second floor quantities in 1 1/2 story houses.

roof, whether dormers extend to the outside walls or are set back on the roof. But the discrepancy can never be enough to be of consequence and this short-cut has greatly simplified the figuring of the 1 1/2 story type houses. Note how the ceiling joists saved by the rafters will provide for the plates. If 2x6 ceiling joists are figured, however, the false partitions will be figured with 2x6 studs, which are synonymous to ceiling joists placed vertically.

Inasmuch as the plan shows the garage and porch incorporated as an integral part of the house, the 13.6 squares of roof includes all roof areas shown, including the false cornice over the garage doors.

#### Incorporated Garages Are Finished

This plan shows the garage within the main unit of this house. Therefore it is termed an "incorporated" garage. The partition between it and the main rooms is listed as regular partition. If it is to be of fireproof or fire-retarding construction, it is a simple matter to deduct 24 linear feet from the 134 linear feet of partition listed and figure accordingly. Likewise, the 183 linear feet of Inside Finish of Outside Walls includes the rear, right and front walls of this garage with no deduction for the garage doors. Remember this is an invariable rule for such garages. It is assumed that such garages will be heated so should be finished similar to the main rooms. If not wanted, a deduction can be made from quantities given.

In the case of garages attached to the main house by a porch, as for the plan on page 66 of this issue, it is assumed that the garage will not be heated so the finish for the walls and ceilings is not included with the unit quantity given. Keep this in mind, as this will also be an invariable rule when plans show the garage "attached" to the main house by a porch.

All other unit quantities will doubtless be clear with the exception of the porch roof and cornice. Being incorporated as a part of the house, the porch roof and cornice are included with the main roof. This will always be done. But when porches are "tacked on" so they can be omitted and built later, if desired, the roof and EXTRA cornice required therefor will be listed separately. Frequently part of the porch cornice is provided by the main cornice, in which case only the

additional cornice required by the porch will be listed as porch cornice.

It is hoped that this explanation of Unit Quantity Surveys will leave no doubt in anyone's mind as to what they may be doing when they multiply the squares or other units given for an *American Builder* house design by their LOCAL UNIT COST. As should always be the case, each builder governs the SPECIFICATIONS by his unit costs—the plan shown governs the QUANTITY of the various quantities required to build the house. The extras listed under every tabulation of Unit Quantities will preclude omissions. In case anyone notices a possible omission of some items I shall esteem it a favor if he will advise me. What better conclusion could be given this article than to repeat from my May article,—

—Anyone who forgets to add a profit should forget to submit a price.

To that I add, it may be well to check one's bid with some friend before attaching the certified check and handing it in.

\* \* \*

## Leaking Wires Lose Money

by N. STUART IRWIN

LIKE pipes, wires leak when overloaded. They leak heat, lack power, lose money. Lights dim and dip, your refrigerator runs too long, and your iron heats so slowly and poorly it takes hours longer, when wires are too small.

Most homes were wired when electricity was intended only for lighting. These wiring systems are overloaded, inadequate and obsolete. They have to supply more light than was ever dreamed of, in addition to an appliance load which is sixty-seven percent heavier than they were intended for.

Fifty years ago, people thought food cooked by electricity was poison. Now, mixers, stoves, grills and griddles are as familiar as pots and pans in a modern kitchen. Electricity does everything from cooking a meal to giving a sun bath. And there is no reason why the next fifty years will not witness an even greater advance.

Overnight, the sales of water heaters, room coolers, and electric roasters have doubled. Twenty-eight million radios and eleven million refrigerators have been sold in less than ten years. All creating demands for better wiring.

The reason for this increase is obvious. On a year's general average, 6 1/2c runs a clock; \$18 protects food; \$3.50 does the ironing; \$1.31 does the washing; \$1.05 cleans the carpet; and \$4.38 buys entertainment. Electricity is the cheapest way of offsetting other higher costs.

Therefore, it is most imperative that wiring systems carry their intended load, without failure. And it is economically desirable that they permit expansion for additional loads as needs arise.

The new wires on the market today are plainly marked and measured as well as flame and moisture proof. At no additional cost it is possible to tell the name of the manufacturer, size, type and voltage, at a glance. Until now, buying was a matter of blind faith, for it was as hard to judge wires by their insulation as books by their covers. Today you can be sure your home is adequately wired, and that it will be livable, rentable, or salable.

For the cost of a piece of furniture you save in the preparation of food, laundering, cleaning, comfort, health and entertainment. Adequacy pays, pays for itself.

## Air Conditioning in D

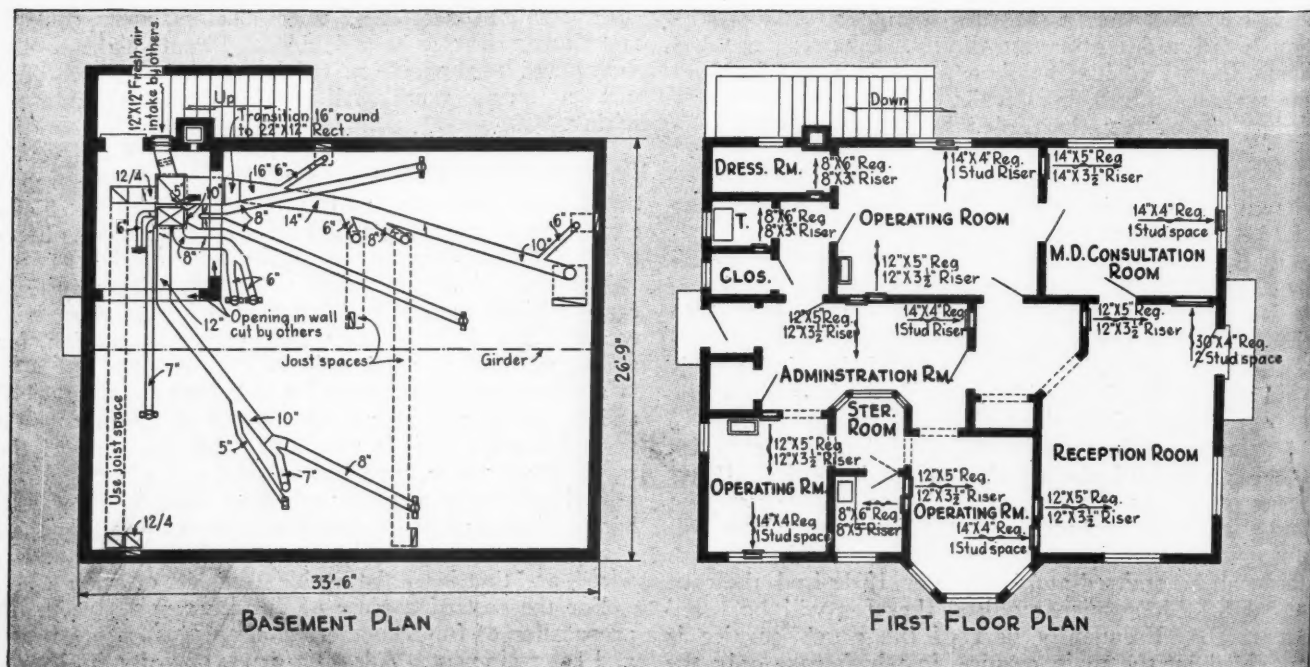
**A Supply of Clean, Fresh Air for Small Clinic Buildings and Home Offices Can Be Assured by Proper Planning of the System; Cooling Added Later if Needed**

**T**HE SELF-CONTAINED doctors' office building for residential neighborhoods and the combination home and professional office have been found to offer desirable facilities in both the larger city and the smaller town. For instance, the comforts and benefits of air conditioning which are sure to be appreciated by the patients can be readily realized in these two types of doctors' offices since proper provision can be made when designing the heating system. This was the case in both buildings illustrated on these pages. Savings in rent, more spacious rooms, added convenience and more rapid building of a practice in the immediate vicinity are other considerations which often enter into the choice of this type of office location.

The neat little professional bungalow shown in two views at the left and in plan below was built in Chicago. It is located on a corner lot in a residential section and provides operating rooms for a doctor and one or two dentists. The reception and administration rooms which are attractively finished in knotty pine are shared by the occupants. The adequate outside rooms have good light and air.

Basement plan indicates the duct layout of the winter air conditioning system. A Sunbeam forced air

**THIS COMPACT** structure which might easily pass as a trim Colonial cottage contains office suites for a doctor and dentist. It is shown as seen from both sides. Plans below indicate air conditioning layout; intake is provided for fresh air from outside.



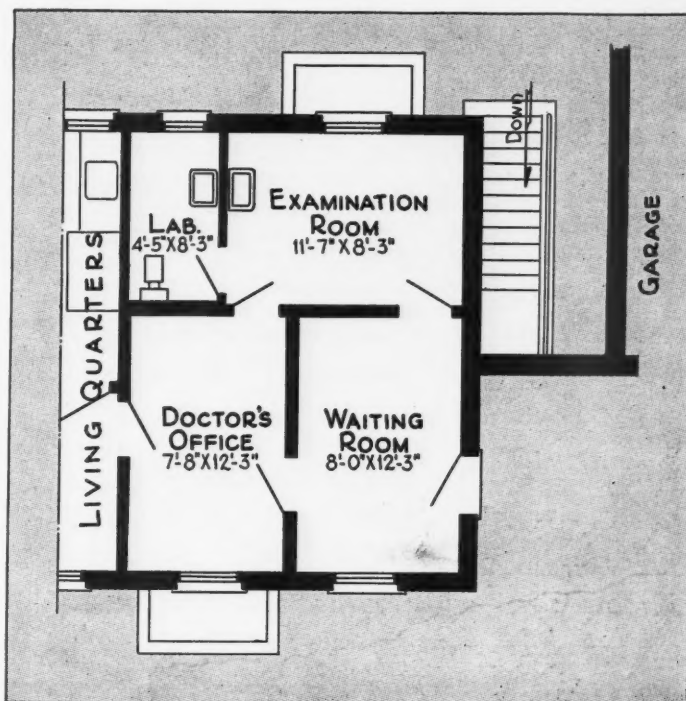
# Doctors' Neighborhood Offices Adds Comfort

furnace has been used and as yet no provision has been made for summer cooling. The plant was completed before the hot weather season of last year and the doctor-owners report that, due to the thorough insulation of the building, the offices were very comfortable all during the forenoon of even the hottest days. By turning on the conditioner fan, cool basement air could be circulated to the rooms in the afternoon if desired. Note that sufficient supply and return registers are located so that all closed off rooms except the closets have positive circulation. Charles Cain of Chicago was the builder and C. E. Eeles, the designer.

The combined doctor's office and home appearing below on this page is a good example of well handled planning for the professional residences. It is located about a block from a street zoned as a business section in Evanston, Ill. The dignified styling of the house itself, with office entrance handily placed to the side so as not to detract from the general beauty, allows the property to fit in well with the surrounding homes.

The house was designed by H. Ring Clauson, Inc., Chicago, and built by The Northwestern Co. of Evanston. The simple rectangular shape allowed construction economy and the placing of office space at one end of the first floor for privacy. The plan of this portion is shown at the right. Reception room and

office are finished in knotty pine. Linoleum was used to cover the entire office floor area. Exterior walls are Wisconsin Lannon stone and roof is red cedar shingles; all glass is thin plate. Here again, winter air conditioning, gas-fired, insures clean fresh air throughout at all times.



FROM THE STREET, the doctor's offices in the home below are entered by the canopied door at the side. A decorative corner lantern lights the office walk next to attached garage driveway.





ABOVE: Service station in Norwich, Conn., carefully planned for good interior lighting through use of large glazed service doors.

## Modern Service Station of Unusual Design

Enamel and Glass Surfaces Give Clean Appearance and Plenty of Light

**O**NE TYPE of light-load bearing commercial building which has kept well abreast of advanced construction practice in all its phases is that found in recently erected service stations. New materials and planning have been readily adapted to make the structures the last word in efficiency and appeal from a selling standpoint; they are modern in design and equipment.

A station that certainly qualifies along these lines is pictured above. It is located in Norwich, Conn., and was designed by the architectural firm of Cudworth and Thompson, John K. Tingley, associated.

The site is of irregular shape as can be seen in the plan opposite and the grade level rises to the rear—not noticeable in the illustration—so that an unusual problem of adequate lighting was present. It was necessary to confine the first floor natural light sources to one side and the front which has four entrance service doors to washing and lubricating rooms. These are largely made of glass to admit the maximum amount of light and create a modern appearance; Stanley "Roll-Up" doors were selected for the job. The plate glass store front used on the central sales room has an interesting corner window installation of stainless steel Kawneer sash as detailed with the plans.

The front exterior and tower office walls are veneered with Dextonamel. This surface material is porcelain

enameled Armco steel on a 4-inch cast stone backing; behind this is a brick backup. The sides of the building are 12-inch brick above grade; the rear is a stone retaining wall to grade and brick above. By day, the enameled surface presents a spotless exterior and, by night floodlighting, a gleaming attractiveness to draw passing traffic.

Other construction features are contained in the outline as follows:

**FOUNDATION:** Continuous concrete.

**PARTITIONS:** 12" and 8" brick, plastered, and 2" x 4" studs with rock lath and plaster.

**ROOF:** Steel beams, 2" x 10" rafters, boarding and five-ply built-up roof.

**FLOORS:** Concrete, 4" bed and 1" cement top. Reinforced over pit. Oak floor in office.

**CEILINGS:** Furred, Sheetrock with battens over joints.

**PAINTING:** Exterior—White lead and oil all woodwork. Interior—Enamel wainscot, no paint above. Wood—two coats enamel.

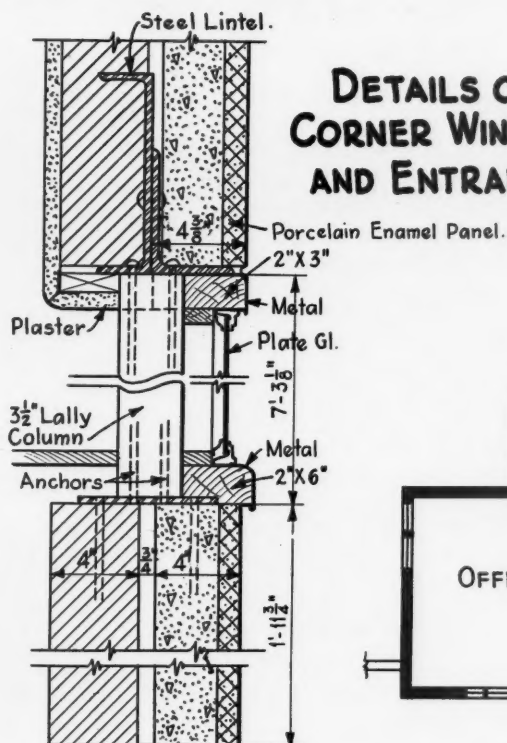
**HEATING:** Two pipe gravity steam, Burnham boiler, Burnham unit heaters and radiators.

**PLUMBING FIXTURES:** Standard Sanitary.

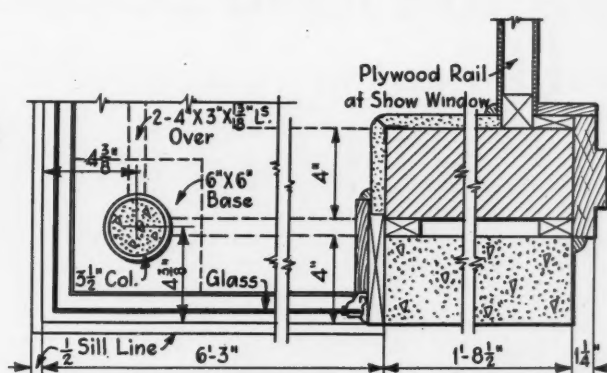
**ELECTRIC FIXTURES:** Westinghouse Luminaires and floodlights.

The general contractor was Zachae Bros. of Norwich.

## DETAILS OF CORNER WINDOWS AND ENTRANCE

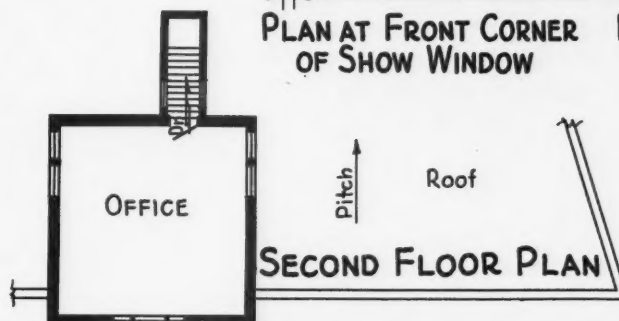


SECTION AT  
SHOW WINDOW



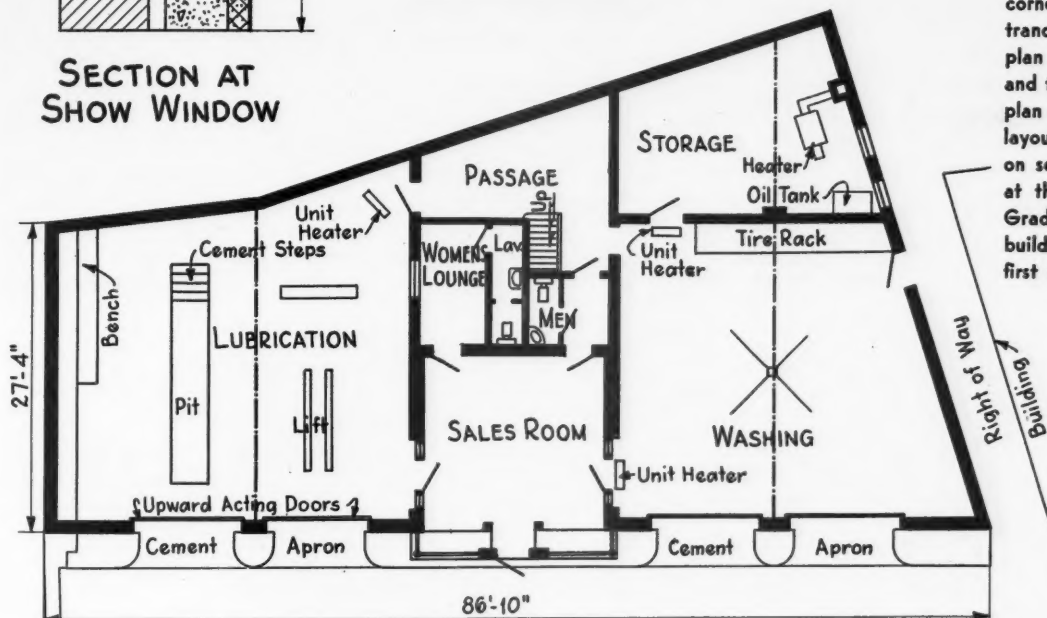
PLAN AT FRONT CORNER  
OF SHOW WINDOW

PLAN AT ENTRANCE  
DOOR JAMB



PLANS AND DETAILS  
OF A GAS SERVICE  
STATION LOCATED  
IN NORWICH, CONN.

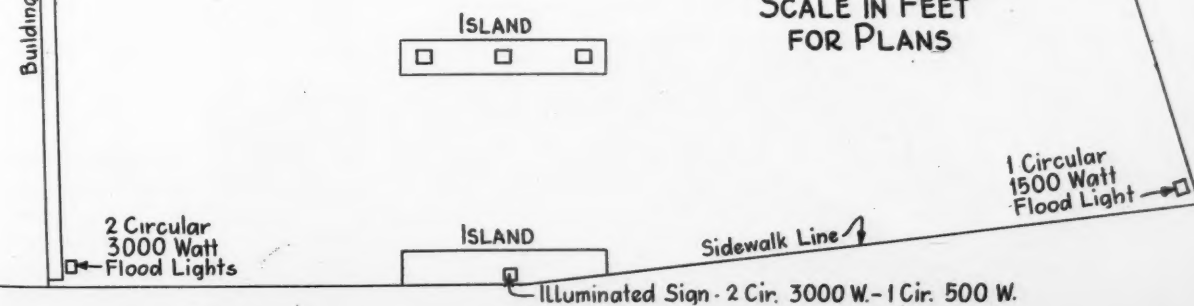
Details of sales room  
corner windows and en-  
trance are shown in  
plan and section above  
and to the far left. Plot  
plan with first floor  
layout and tower office  
on second floor appear  
at the left and below.  
Grade level behind  
building is too high for  
first floor rear windows.



FIRST FLOOR PLAN

0 5 10 15 20 25

SCALE IN FEET  
FOR PLANS



# How to Finish Douglas Fir Plywood

By **ROY F. WILDMAN** of the W. P. Fuller Co., Seattle

**P**LYWOOD panels may be finished in a number of ways including staining, painting, wallpapering, and mechanical surfacings. For each of these methods, several or many variations are possible. We shall limit our discussion to staining and painting.

The quality of the final surface obtained with Douglas fir plywood will depend, as with other materials, on the quality of the products and labor used.

In general, therefore, let us specify, first, the use of standard products from reputable manufacturers. This applies either to prepared paints and stains or to those mixed on the job; second, the employment of skilled painters and decorators, and adherence to manufacturer's directions. All joints not concealed by mouldings or routings should be carefully filled with a joint filler, using a putty knife to get a full, smooth joint. All nail sets are puttied and smoothed.

Stock plywood panels are sanded to a satin-smoothness in the mills, but when delivered to the job, considerable time has usually elapsed, with handling and re-handling. Accordingly, when panels are soiled or not in perfect condition they should be given a hand-sanding using a block to insure clean plane surfaces. Frequently only the joints and nail holes will require sanding. The next step is a thorough dusting to cleanse the surface, which is now ready for finishing.

## Staining

It should be standard practice to seal with one of the new clear resin sealers, developed during the last few years with the advance in synthetic gums. The resin

sealer, applied directly after sanding (and dusting) prevents the subsequent stain coat from penetrating into the softer spring wood of Douglas fir. As a consequence an even distribution with a softened grain-tone is effected, and both moisture-penetration and grain-raising are eliminated.

Panels also may be obtained with a sealer applied in the mill, immediately after mill-sanding.

The use of clear resin sealers has re-opened the field for water stains on fir plywood, where until recently only oil stains have been deemed feasible, but skill is needed in their use.

Steps to produce stained finishes may be tabulated, as follows:

FLAT STAIN	GLOSS STAIN	LACQUER
Stain	Stain	Stain
Coat of Shellac	Shellac	Lacquer Sealer
Sand	Sand	Clear Lacquer
Flat Varnish	Gloss Varnish	(Flat or Gloss)

For a natural wood finish, the stain is omitted. An economical, attractive finish consists simply of two coats of clear lacquer, with a finish of wax, sanding after each coat.

## Painting

The development of resin sealers introduces the question of whether to prime with a sealer or with paint. As far as mill-priming is concerned the sealer possesses the advantage of admitting any subsequent finish. With respect to hiding or covering qualities, where an under-coater and a finish coat are to follow, the paint priming is at least as good, if not slightly superior.

(Continued to page 78)



**NATURAL** finished Douglas fir plywood with grain softened by sealer priming. Wall panels have simple battens over joints—an extremely economical application.

# YOU WILL MAKE MORE MONEY with MODEL 87 SKILSAW on ALL your jobs this season!

**IT'S THE GREATEST BUY  
IN SKILSAW HISTORY!**

- 9 inch blade.
- Cuts to a depth of  $2\frac{3}{8}$  in.
- Cuts 3 in. dressed lumber.
- Bevel-cut lumber  $2\frac{3}{8}$  in. thick at  $45^\circ$ .

**\$135<sup>00</sup>**



**IT** will cut costs and increase profits on ALL your sawing—from first-floor joists to final trim—because it is designed to do more sawing jobs... to saw deeper on straight and bevel cuts... to work faster, easier! Model "87" combines more improved features than were ever offered before... it's the greatest SKILSAW since we introduced the first portable electric hand saw 18 years ago!

**SKILSAW, INC., Dept. A, 3314 Elston Avenue, Chicago**  
 214 E. 40th St., New York • 52 Brookline Ave., Boston • 1429 Spring Garden, Philadelphia • 1253 S. Flower St., Los Angeles • 2065 Webster St., Oakland  
 Sold by leading distributors of mine, mill, hardware and contractors' supplies.

**SEE MODEL "87" IN  
ACTION ON YOUR JOB  
WITHOUT OBLIGATION!**

• See for yourself... under your own conditions... how this great new SKILSAW Model "87" can help YOU save time and money on all your sawing operations! Your dealer will gladly demonstrate it for you, without obligating you in any way... but we know that if you try it once, you won't want to be without it!

See your dealer or write us for full information.

## SKILSAW

PORTABLE ELECTRIC TOOLS

SAVE MONEY IN EVERY INDUSTRY!

• SAWS • DRILLS • BELT SANDERS • DISC SANDERS • GRINDERS • BLOWERS •

There are two possible defects, both preventable, which may occur in plywood wall surfaces. Painting technique, as well as panel application and jointing, should aim to guard against these preventable items, fine hair-checking and hair-cracks at panel joints. Fortunately, if panels have been applied thoroughly dry and if they are primed or sealed soon after, checking is not a problem. Hair-cracks at joints pass unnoticed with a stain or natural finish, whereas in a painted wall they might be visible although scarcely comparable with diagonal cracking in other material. The use of the fur-stix eliminates most of the effects of movements in the lumber framework, as well as the minute shrinkage occurring in panels when unusual changes in moisture content takes place. Correct joint filling also provides an elastic expansion joint to eliminate cracks in the paint film.

The following table shows steps in producing the popular eggshell or semi-gloss finish, as well as the stippled, textured, and glossy finishes.

Brush stippling, and to some extent a plastic finish, is extremely popular as a practicable and attractive surfacing; each type conceals thoroughly any minor blemish or checking in the plywood

#### PAINT FINISHES

Eggshell	Stipple	Plastic or Rough Texture	Gloss Enamel
Lead and oil primer or resin sealer	Primer or Sealer	Primer or Sealer	Primer or Sealer
Undercoater	Undercoater	One coat of stipple paste; skilled painter can produce finish as specified by architect	Undercoater (2 coats preferable) Gloss Enamel Recommended: Glaze coat, and special care in jointing and in using dry panels
Eggshell Enamel	Stipple paste		
Optional (One coat of glaze color to soften finish—wipe before drying)	Optional (glaze coat to soften finish)		

#### RECOMMENDED FORMULAE FOR MIXED PAINTS ON INTERIORS

	Priming Coat	Second Coat		Flat Finishing Coat		Semi-Gloss Finishing Coat	
		A*	B*	A*	B*	A*	B*
All Purpose Soft Paste White Lead	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.	100 lb.
Raw Linseed Oil	3 gal.						
Turpentine	2½ gal.	1¼ gal.		1¼ gal.		¾ gal.	
Flattening Oil, Lead Mixing Oil or Lead Reducing Oil			2½ gal.		2½ gal.		2 gal.
Floor Varnish		¾ gal.		1 pt.		1¼ gal.	1 gal.
Liquid Drier	1 pt.	½ pt.		½ pt.		½ pt.	
Gallons of Paint	8½	5¼	5½	6	5½	5¼	6
Coverage per Gallon (approximate) Square Feet	700	800	800	800	800	800	800

\*Either formula A or B may be used in each case, depending upon availability of materials and personal preference of the decorator.

#### Exterior Painting

Edges and outside surfaces of plywood exposed to weather should be carefully finished with three coats of high-quality paint. In extremely damp localities, the interior should be coated also.

##### Priming—

Without exception, ready-mixed paints used for priming should be reduced with pure raw linseed oil—usually with one gallon of oil to one of paint. Apply subsequent coats as the paint manufacturer recommends.

In mixing aluminum paint, which is especially moisture-resistant, use only high-grade vehicles—such as kettle-bodied boiled oil or long oil spar varnish. Do not use ordinary boiled oil or raw linseed oil. Many paint manufacturers now offer a vehicle specifically prepared for aluminum powder.



FIR plywood, flat paint finish, with V-joints emphasizing vertical lines, in Madison, Wis., residence. Beatty & Strang, architects.



SEMI-GLOSS or egg-shell finish on Douglas fir plywood. The horizontal lines, emphasized by mouldings, are enhanced by the slats in Venetian blinds. Dri-Bilt residence at Gibsonburg, O.



PLYWOOD panels stained to emphasize grain in California library.



**MISTER  
BUILDER:**

*Please give  
me care-free  
House-  
Keeping!*

"**CARE-FREE**" is the word which best describes the home that's run by Gas—"the quick, clean, economical servant."

So why not follow the line of least resistance in your plans? The house that's easiest for your client to keep is also the easiest for you to build.

You have a single dependable source of fuel for all "4 big jobs." And you have a wide selection of equipment designed to use this fuel most efficiently.

Modern gas appliances are noted for their handsome appearance, sturdy construction, and economical operation. They have what it takes to build and sell modern, livable homes.

Ask your gas company for full information about the exclusive advantages of Gas—for care-free housekeeping.

Be sure the appliances you specify carry the Approval Seal of the American Gas Association Testing Laboratories.



**"... and that means  
GAS FOR THE  
4 BIG JOBS"**

**COOKING** . . . Modern gas ranges combine speed, beauty, economy. Equipped with automatic heat control, fast smokeless broilers, simmer burners.

**REFRIGERATION** . . . Really silent. No moving parts to wear out and give trouble. Years of economical operation assured. Roomy interiors.

**WATER-HEATING** . . . Instant hot water any time at the turn of a faucet. Improved insulation cuts down fuel consumption.

**HOUSE-HEATING** . . . The only completely automatic house-heating fuel. Makes basement "living room" practical. Requires no fuel storage space.

**A M E R I C A N   G A S   A S S O C I A T I O N**

# Stainless Steel Perfected for Building



NEW STAINLESS STEEL PRODUCT is easily handled and cut with ordinary heavy shears.

Wide range of uses in homes, stores and commercial buildings seen for new stainless steel product in thin sheets with flexible waterproof backing.

OUT of the laboratories and production department of one of the nation's foremost producers of stainless steel has come a new product with a wide application to the building industry. The new product consists of a sheet of thin stainless steel with a tough, asphalt-impregnated rag felt backing. By a special process, using a new combining mill designed and built for this product, the Ludlum Steel Company, of Watervliet, N. Y., permanently bonds the stainless steel facing and the waterproof backing into one versatile product.

The thin sheet of stainless steel united with its composition backing has flexibility and is easy to handle. It can be cut with ordinary heavy shears and cemented to plaster, wood, fibre board, concrete or other surfaces. A special waterproof cement for this purpose is provided.

The name given to the new product is Ludlite, derived from "Ludlum" and "lightweight." The basic product is now available in 24-inch rolls, 50 and 100 feet long, stocked in distribution centers and branch offices in a large number of cities. The main offices of the Ludlum Steel Company are at Watervliet.

The stainless steel surface of Ludlite has the smoothness and high polish of a mirror and is yet one of the most resistant of all metals to stain and corrosion. This metal has formerly been too expensive and difficult to handle to achieve wide use in the building field. In Ludlite, its new flexible form makes it possible for anyone to install it as it can be shaped or bent by hand and nailed, screwed or cemented into place with ease.

One of the first important uses to which it is being put is as a surfacing material for walls and counter tops in kitchens. It is also available in tile form, which may also be installed by any craftsman. Its wide range of uses in the home includes cabinet linings, back splash panels, sanitary wall covering, table tops, shelf covering, flashing, wainscoting, weatherstripping, drain boards, etc.

Stainless steel in recent years has been widely used in commercial and industrial enterprises, from packing and canning plants to hotels, restaurants, steamships and railroad dining cars. The perfecting of Ludlite puts stainless steel within reach of the modest home and the average small commercial structure. It has a large market in retail stores as shelf covering, sanitary cover-

ing for cases, cabinets and counter tops, and as lining for flour bins and other storage containers. While Ludlite in roll and tile form is already on the market, further developments of interest to the building field are contemplated. These consist of building board to which the stainless steel surfacing has been attached, and plywood with the same mirrorlike surfacing. In combination with these and other standard forms of building products, it should have a wide distribution and use in building.

The decision to place this new product on the market and expand production at this time was made by President Hiland G. Batcheller, of Ludlum, to act as a stimulant to employment and sales during the current recession. In addition to the construction of a new mill and the installation of new equipment, the introduction of Ludlite is providing considerable added employment in connection with distribution, sales service and installation work.



STAINLESS STEEL 4-inch tile cemented to a kitchen wall.

# BUILDERS ARE SURE INTERESTED IN THIS CONTEST!

## Cash In On This \$20,000 Home Building Contest

**WIN** one of the twenty \$1,000 prizes to be awarded to new or modernized homes.

**TELL** your customers to enter their homes in this competition—they may win a prize—you may win prestige and publicity in your local community.

**CAPITALIZE** on the broad, current popularity of this contest. Electric Service Companies serving 11,000,000 homes are supporting this program, and a number are offering prizes in local competitions. Tell your prospects that your houses are entered in this "New American Home Building Contest."

Prizes will be awarded based on the following "10-Point Specifications."

- 1 Good Location and Architecture
- 2 Sound Construction and Skilled Labor
- 3 Quality Materials and Equipment
- 4 Landscaping and Interior Decoration
- 5 Sound Financing
- 6 New Materials
- 7 Plumbing and Sanitation
- 8 Heating and Air Conditioning
- 9 Insulation and Sound-Deadening
- 10 Electrification

Homes may be entered by builders, architects, home owners. Mail the coupon today to the General Electric Home Bureau, and you will receive a copy of the contest folder. No obligation—costs you nothing.

**RIDE THE MAIN LINE**—A reading public increasingly wants completely equipped homes. Electric rates are lower—Applications of electricity are broader—Appliances are better and more efficient. Build your homes for "better living"—Adopt the "Electrical Standard of Living."

## Help for Builders—Architects

The General Electric Home Bureau serves architects—and their clients—with technical advice and assistance on all home-electrification problems. We will check your plans from an electrical point of view—prepare wiring layouts—heating and air conditioning specifications—scientific lighting plans—kitchen schemes—laundry suggestions. We will gladly supply helpful information on new electrical materials, methods, and equipment. Let us assist you on your next job. Address: The General Electric Home Bureau, 570 Lexington Avenue, New York City.

**GENERAL  ELECTRIC**

**PROMOTING  
INTEREST IN HOMES!**  
G-E Sponsored Activities:

**1938**  
Home Building Contest  
\$20,000 in prizes

**1937**  
Better Living Contest  
\$52,000 in prizes

**1935-6**  
Home Demonstration Program—Millions inspected  
hundreds of homes

**1934**  
Architectural Competition  
\$21,000 in prizes

Adopt the

*Electrical Standard of Living*

GENERAL ELECTRIC HOME BUREAU  
Dept. AB6 570 Lexington Ave., N. Y.  
Please send FREE New American Home Building Contest folder.

Name .....

Address .....

City and State.....

Name of Your Electric Service Company.....

.....

## New Finish for 1939 Western World's Fair

**Iridescent Stucco Being Used for Exterior Finish on the 1939 Golden Gate International Exposition Buildings. Low Cost Mica Product Gives Texture and Sparkle to Wall Surfaces**

**B**Y LITERALLY turning their buildings "inside out," and using an inexpensive insulating material as a surface finish, stylists of the 1939 Golden Gate International Exposition at San Francisco have developed a cement stucco that glitters, under sunlight or illumination, with millions of gem-like sparkles.

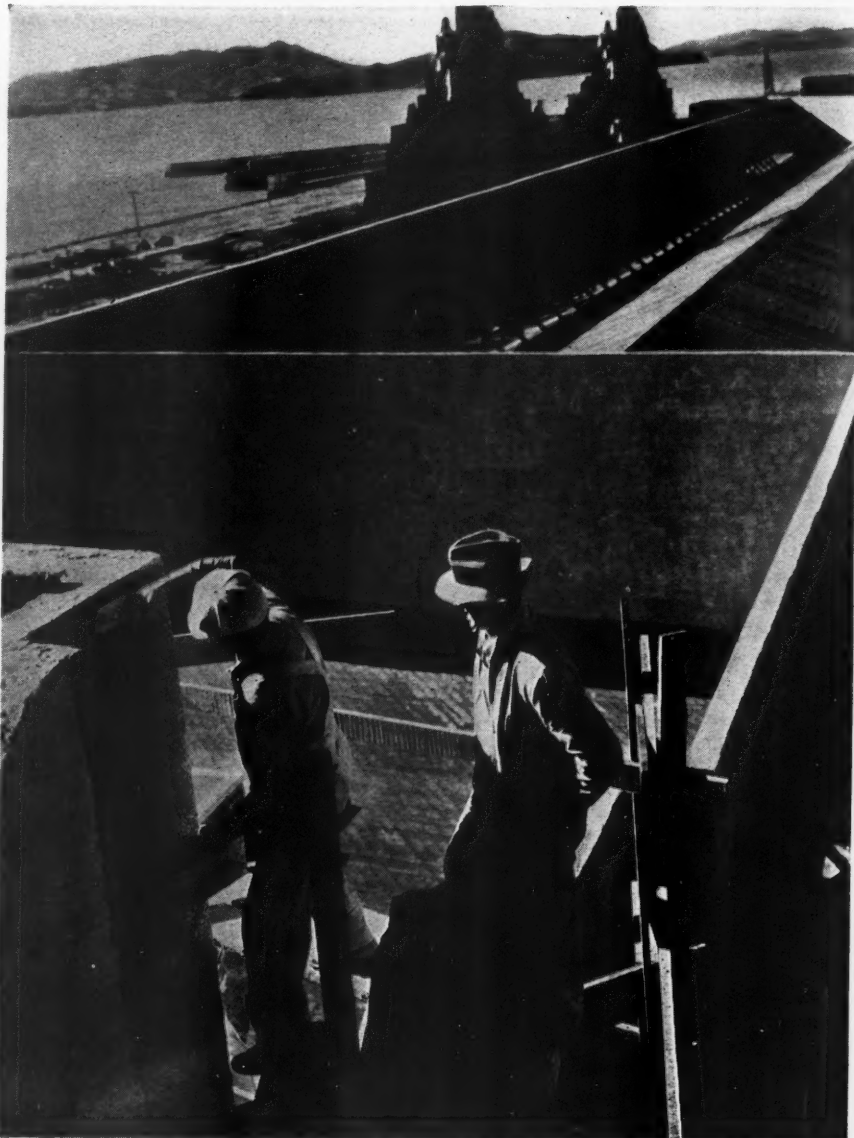
The material is vermiculite, an alteration product of mica, quarried in several states. Expanded by electric heat to 15 or 20 times its original size, and distributed under several trade-names, vermiculite is widely used in insulating plaster, fireproof insulating board, acoustic plaster, composition roofing, interior decorative finish and light cement.

Seeking a distinctive finish for more than 200,000 square yards of exterior stucco on Western World's Fair buildings, stylists found that vermiculite, applied to wet stucco, imparted an interesting antiqued finish and gave back light at certain angles with iridescent effect. Low cost is an important factor in this first exterior-decorative use.

Different degrees of heat, in the expansion process, give the vermiculite different colors ranging from silver to a deep copper gold. The Western World's Fair will use some 140 tons of a bright natural gold, gaining the atmosphere of the California gold rush in 1849. By day it will add texture, color and sparkle to the wall surfaces.

By night it will intensify the lighting through the texture of the popcorn-like material, and render the walls brilliant by reflecting highlights. The sparkles are visible at a distance of more than 500 feet, and the luminous quality has its effect at much greater distances.

On the Western World's Fair buildings the vermiculite (Zonolite) is laid on with a darby over fresh plaster, trowled in, and the excess loose pieces are combed out with a stiff wire brush after the plaster has set. Four cubic feet of vermiculite are applied to each 50 square yards of wall surface. Eight plastering contracts have been let by the Exposition, with a total value of \$237,508 on lump sum bids.



VERMICULITE being applied over fresh cement stucco for novel sparkling wall finish.

Months of experimentation by J. E. Stanton, Exposition colorist under W. P. Day, Vice President and Director of Works, developed this novel use of vermiculite, with the assistance of master plasterers. It assures for the 1939 Western World's Fair a surface texture as new, distinguished and distinctive as was travertine surfacing at the last World's Fair in San Francisco which was held in 1915.

Recent tests established the value of this luminous stucco in combination with the million-dollar lighting plan on Treasure Island, 400-acre World's Fair site in the center of San Francisco Bay. A 100-foot test section of wall surface, lighted and viewed from hilltops around the harbor, proved that the Fair will get "two for one" for its lighting money.

From a distance of miles, the test section glowed like illuminated alabaster, and cast a golden sheen of reflection across the water of the Bay. The effect will be dualuminous, surpassing the expectations of A. F. Dickerson and J. W. Gosling, illumination engineers loaned by General Electric to devise the lighting program.

# It's the V I T A L E L E M E N T

(TRINIDAD NATIVE LAKE ASPHALT)



## HERE



On the tropical Island of Trinidad, in the southern Caribbean, Sir Walter Raleigh discovered the now-famous asphalt lake. For millions of years Trinidad Native Lake Asphalt — *The Vital Element* — has been exposed to a year-round summer sun and countless tropical tempests. It has been truly "tempered by Nature." Today native workmen dig *The Vital Element* from the lake with mattocks. It is shipped directly to Barber plants in the United States where it is used in making fine-quality roofings.

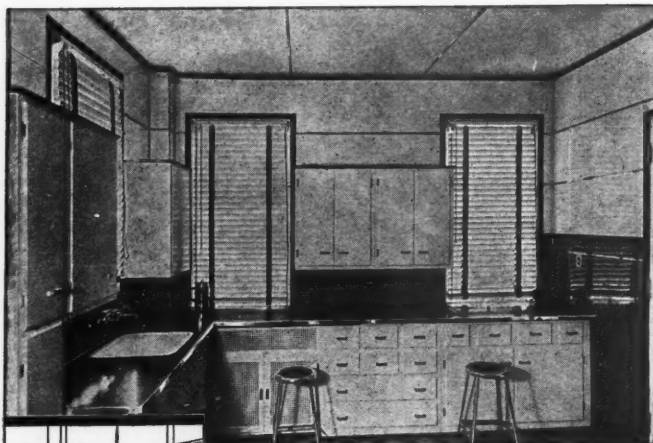
The peculiar characteristics of Trinidad Native Lake Asphalt make it an ideal constituent of roofing. It contains a colloiddally dispersed wear-resistant mineral filler not yet duplicated commercially in any other asphalt. It has an inimitable balance between adhesion and cohesion. It is a superb weatherproofers. Barber Genasco Shingles, Sidings, Roll Roofings and Built-up Roofings, containing *The Vital Element*, are now giving excellent service on thousands of homes, stores, factories, office buildings and civic buildings throughout the United States. *Barber Genasco Latite Shingles protect this attractive home in Phoenix, Arizona, illustrated at right.*



Use and recommend to your customers Barber Genasco Roofings containing *The Vital Element*. And when difficult and unusual problems regarding asphalt uses and applications arise, send them to Barber for an authentic answer. Barber Asphalt Corporation, Philadelphia, Pa.

## BARBER Genasco ROOFINGS

SHINGLES • SIDINGS  
• ROLL ROOFINGS •  
BUILT-UP ROOFINGS



*Soften up*  
**SALES  
RESISTANCE**

**...OFFER**

### *Prospective Home Owners* **A "SPECIAL VALUE"**

"Special values" make people more eager to buy. This applies as much to selling homes as department store merchandise. With Marlite you can offer prospective home owners values that will make them want to buy...instead of "thinking it over". For Marlite creates an impression of value and loveliness that is only expected in higher priced homes.

Better still, Marlite actually saves prospective home owners a tidy sum of money over a period of years. For Marlite eliminates periodic renovating expense. A damp cloth keeps its glass-smooth surface lustrous as new, year after year. There's a value that costs you nothing to provide...that will clinch many a sale.

Marlite is reasonable in first cost...extremely economical to install. It comes in pre-finished wall-size panels that can be cut to any smaller size with ordinary carpenters' tools and speedily applied to any wall surface by a good carpenter. Use this distinctively modern material in the bathrooms and kitchens of the homes you build. "Special values" never fail to soften up sales resistance. Write for free book that illustrates the wonderful home interiors that can be created with smart, lustrous, colorful Marlite.



**MARSH WALL PRODUCTS, Inc.**  
63 MARSH PLACE • DOVER, OHIO

Marlite... the DeLuxe Wall  
Material of a Thousand Uses.

*Marlite*  
**FOR CREATING BEAUTIFUL INTERIORS**  
WALL-SIZE PANELS IN LUSTROUS COLORS AND PATTERNS

## **Windows, Heating Items and Specialties in New Designs**

### **New Double-Hung Steel Window**

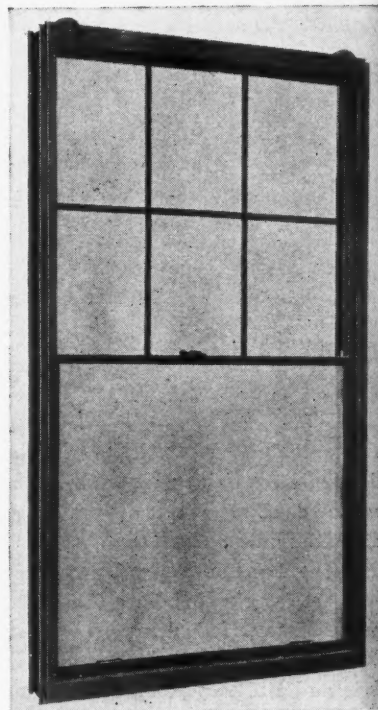
THE new double-hung steel window offered by the Truscon Steel Co., Youngstown, O., combines special features of major importance. Sash members are of tubular construction, adding greatly to the strength, durability and finished appearance of the window. Weights and cords are absent from this window. Operation is controlled by spring balances equipped with tapes of Enduro stainless steel. Quiet, positive action and long trouble-free life are assured. Each window is completely factory weatherstripped with spring bronze. Due to the type of weatherstripping used, loose, leaky and rattling windows are avoided.

Hardware accompanying this new window is a special design and is available in brush cadmium finish as standard equipment or in Enduro stainless steel or solid bronze at very slight extra charge.

Screening is easily and attractively accomplished through the inclusion of a rebate on the exterior of the window frame, which permits flush installation of screens and Temptryte insulating storm windows. One-half of the window may be screened, or the screen may be extended to cover the entire window. A third type of screening consists of a screen that covers the lower half of the window but allows the screen to slide upward when desired.

Truscon residential double-hung windows are rust-resistant due to the Bonderizing process through which they pass at the factory.

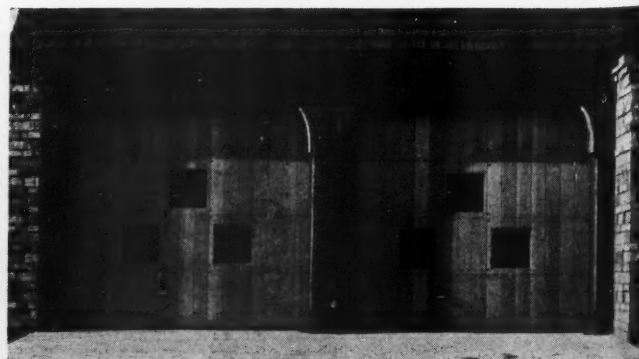
NEW double-hung window is Bonderized before finish is applied.



### **Automatic Garage Door Operator**

TO OPEN and to close a garage door from either the inside or outside by means of automobile headlights from the driver's seat, the Wayne Automatic Relay Company of Fort Wayne, Ind., has developed a new type photo-electric garage door control unit.

(Continued to page 86)



HEADLIGHT beams through glass panels operate garage doors.

and  
ns

Truscon  
major  
adding  
of the  
window.  
n tapes  
rouble-  
weather-  
ripping

design  
ipment  
extra  
gh the

# A BUILD UP for You . . . to Bigger Store Front PROFITS!



PITTCO STORE FRONT advertising appears regularly in 32 trade papers. Advertisements like the one shown above act as advance sales agents for you . . . put your prospects in a "store front" frame of mind.

## PITTCO

STORE FRONTS  
*glass...metal...paint*

Pittsburgh Plate Glass Company,  
2298A Grant Bldg., Pittsburgh, Pa.

Please send me, without obligation, your new book entitled "Producing Bigger Profits with Pittco Store Fronts."

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

PITTCO store front advertising is just that. It makes your prospects sit up and take notice. It gives them convincing evidence that Pittco modernization results in improved property appearance, a bigger volume of retail sales and increased revenue. Consistent advertising, appearing regularly in their favorite trade journals and business papers, puts the facts before merchants, property owners, architects and building

managers in your community. Tie in with Pittco advertising. Use Pittco Products in your store front work to capitalize on it . . . and make sure of stand-out store front jobs. Our booklet contains information that you can use to advantage. We urge you to send the coupon for your free copy now.

### PITTSBURGH PLATE GLASS COMPANY


"I SEE  
YOU'VE SPECIFIED  
**WESTERN PINES**  
AGAIN, MARTIN"

"RIGHT, MR. WALSH,  
AS YOUR ARCHITECT I  
RECOMMEND YOU  
GO ON USING THEM"

"WE don't believe there's any comparable substitute for Western Pines for corner boards, doors, windows, screens . . ." says Mr. Martin H. Braun, architect of Chicago's Fred J. Walsh Company.

"We built more than 200 small homes in the last year and used a lot of these fine woods for sheathing, mantels, stairs, built-in fixtures, mouldings, paneling, porch work. . . . We like the ease with which they work, the way they paint and stand up against the weather."

THE WESTERN PINES WILL  
DO YOUR NEXT JOB BETTER  
\*\*\*TRY THEM

Specify Western Pines  From Association Mills

Western Pine Association, Yeon Building, Portland, Oregon

\* Ponderosa Pine \* Sugar Pine

\* Idaho White Pine

\*These are the Western Pines

(Continued from page 84)

The control is self-contained in a standard 16 gauge steel cabinet, and made applicable to any type or make of garage door, on 110 volts AC or DC. It is designed to be mounted on the rear wall of the building so that the lights from the car will shine through the glass panel in the door and onto the photo-electric cell in the control cabinet. The glass arrangement shown is one that has proved to be very practical and acceptable for most types of architectural design.

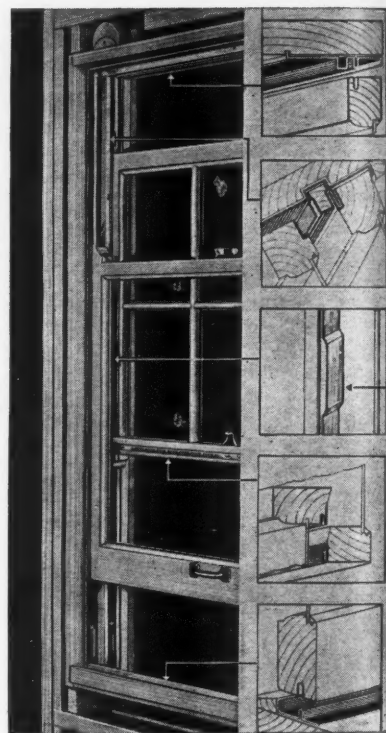
### Factory-Fitted Window Unit

A DISTINGUISHED factory-fitted window unit embodying major improvements in ease of installation, weatherstripping and design is being manufactured by Roach and Musser Co., Muscatine, Ia. This weather-tight and dust-tight window has jambs and head completely metal lined and sill metal lined to full thickness of lower sash. The metal is non-corrosive zinc; strips interlock at jambs with zinc strips on the sash and with ribbed strips at head and sill; check rails are also protected with interlocking zinc strips. Sash slide freely and easily at all times.

For ease of installation all weatherstripping, with exception of head and sill strips, is factory installed. Quick, simple assembly enables carpenter to properly install the window in 15 minutes.

Narrow stiles and rails provide more glass area. New oval sticking offers smooth rounded surfaces which are more readily cleaned and also easier to paint. A new slender-line effect is immediately apparent, offering greatly improved appearance in contrast to the conventional type window.

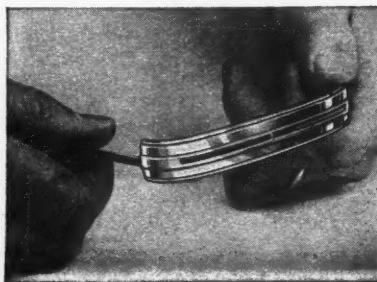
The window is adaptable for frame wall, brick veneer or masonry. There are no sash weights or cord; spring balances guaranteed for life of building. The frame and sash are toxic treated.



SMALL detail sketches show features of factory-fitted frame and sash.

### Cabinet Pull with Colored Insert

THE Stanley Works, New Britain, Conn., has announced a new No. 4478CM "Multichrome" cabinet pull with interchangeable color features—offering home owners a pull that will harmonize with the coloring of modern kitchens. It is made of wrought brass and is chromium plated. In the face of each pull there is a slot in which a strip of colored Viscaloid can be inserted easily by the hardware or building supply salesman. Choice of color can be made from red, ivory, black, blue, green, orchid, yellow and white. The first three colors of Viscaloid strips are packed one dozen each with each dozen pulls. Other colors of strips are furnished on request.



INSERTING color strip in new cabinet pull.

# Wake up

## SLEEPY SALES AND RENTALS



*with colorful,  
low-cost floors  
of Armstrong's  
Asphalt Tile..*

A SALES-MAKER is this basement room with its colorful floor of Armstrong's Asphalt Tile in blocks of Pompeian red and Malay brown. The border is Spanish red, with strip of saddle tan.

WHEN a sale hangs in the balance, a basement game room can often win you a favorable decision. And if you're able to say: "This room has an Armstrong Floor," your sale is that much easier.

Customers know the name *Armstrong*. Years of national advertising have established it as the mark of quality in a floor. That's why many wise builders rely on game rooms floored with Armstrong's Asphalt Tile to help close the sale.

Asphalt tile is moisture-resistant—the only type of resilient flooring that can be laid over concrete in direct contact with the ground. It is low in cost, quickly and easily installed. Thirty-seven plain or marble colors offer you a wide selection.

Find out now how you can make your new properties more salable, at low cost, with Armstrong's Asphalt Tile. Write today for free copies of "Gay Floors for Basement Playrooms" and "Asphalt Tile Floors." Armstrong Cork Products Company, 1218 State St., Lancaster, Pennsylvania.

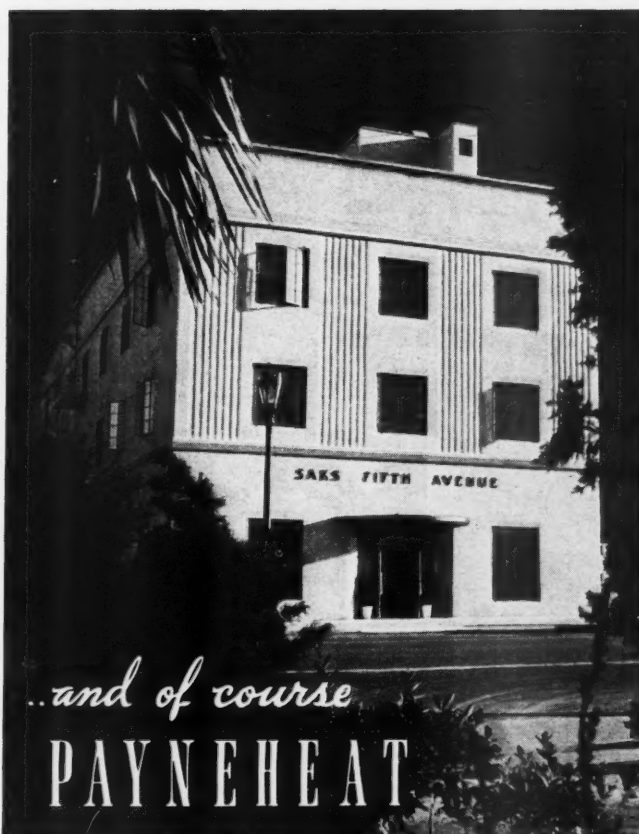
Armstrong also manufactures Reinforced Rubber Tile, Cork Tile, Linotile (Oil-Bonded), Linoleum, and Linowall.



RUBBER TILE • LINOTILE (OIL-BONDED) • ASPHALT TILE

*Armstrong's* LINOLEUM  
and RESILIENT, NON-CERAMIC TILES

CORK TILE • LINOWALL • ACOUSTICAL CEILINGS



ARCHITECTS: PAUL R. WILLIAMS AND PARKINSON & PARKINSON  
CHARLES RAY GLASS, DECORATOR

In its new Beverly Hills store, Saks Fifth Avenue was careful to provide every feature that could possibly add to the comfort of a distinguished clientele . . . a brilliant exterior, the finest of fixtures and furnishings, the exclusive merchandise which is a Saks tradition . . . and of course, PAYNEHEAT.

Specifications which call for Payneheat guarantee years of comfort, efficiency and economy. That's why Payne is going into fine buildings and homes everywhere.

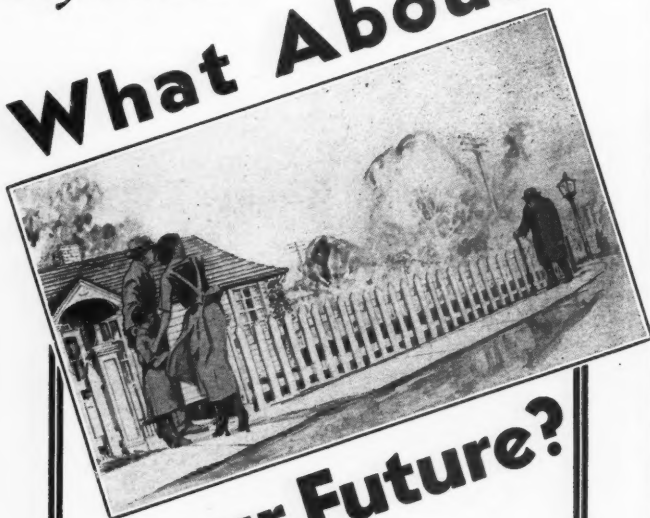
Made in America's most modern furnace plant, Payne Furnaces are the magnificent result of 25 years concentration on gas-fired appliances exclusively.

The Payne engineering staff is at your disposal. Please write for information.

*Payne*  
**FURNACE & SUPPLY CO., INC.**  
BEVERLY HILLS • CALIFORNIA



# Say Mister— What About



## Your Future?

### Who's That Coming Down The Street?

Why, it's an old man coming to see you—Can you guess who it is? He's about 65, his health's not so good, he hasn't got that spring in his step any more and he just shuffles along.—We'll tell you more about him—

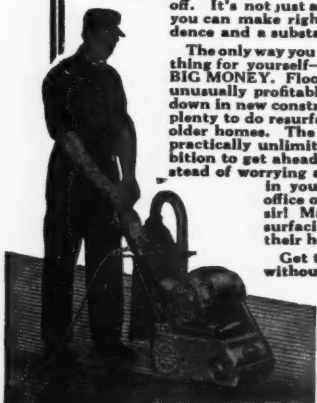
His daughter grew up, got married, moved to a distant city and is unable to help the old man financially. The old man's wife died shortly after he lost his job and right now, he is in a tough spot.

But wait—he is coming nearer. Can't you recognize him? Sure you can! It's YOU!—yes, sir. You bet your life, it's you, it's me and everyone of us. That old man is coming down the street to meet all of us and every year he is getting a little closer until finally he steps right into our shoes and then, we are the old man. Now then, which old man is going to meet you—is he coming with some money in his pocket, perhaps not rich but independent—well dressed and cheerful, or is he coming a little "shop worn" without funds—poorly dressed and existing on what little money his near relatives can scrape together for him?

It's something to think about and you can't laugh it off. It's not just a question of how much money you can make right now but it means independence and a substantial income in later years.

The only way you can do this is to get into something for yourself—be your own boss and make BIG MONEY. Floor sanding work is pleasant and unusually profitable work. When there is a let down in new construction work, you always have plenty to do resurfacing and refinishing floors in older homes. The possibilities in this work are practically unlimited. All you need is the ambition to get ahead and become independent instead of worrying about being laid off every day in your life. You don't need a big office or shop to start business. No sir! Many successful American floor surfacing men operate right from their homes.

Get the details absolutely free and without cost or obligation by mailing in the enclosed coupon. You have everything to gain and nothing to lose. This may be the turning point on the road to success for you. Don't delay—get details to-day.



## THE AMERICAN

FLOOR SURFACING MACHINE COMPANY

511 So. St. Clair Street • Toledo, Ohio

Gentlemen:

- ☐ Without cost or obligation to me, send all the free details on how I can get into the floor surfacing business for myself.
- ☐ I already own a floor sanding machine but tell me more about that money-making American Sander.

Name.....

Street.....

City.....

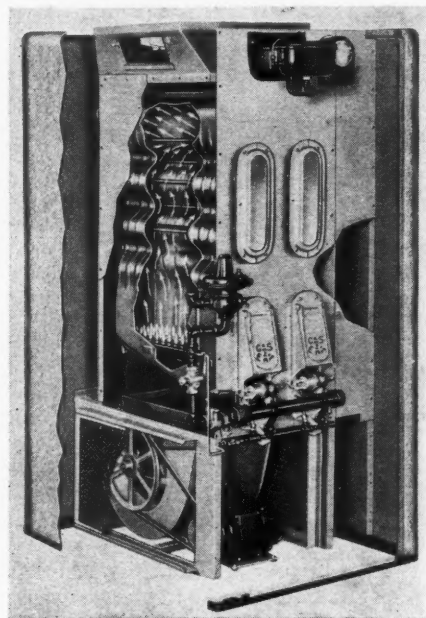
State.....

## Winter Air Conditioning Furnace for Small Homes

THE L. J. Mueller Furnace Company, Milwaukee, Wis., has announced Climatrol Junior, a new lower priced gas-fired winter air conditioning furnace, designed and built for the smaller home, and offering home owners the combined comforts of gas heat, circulation, air cleaning, and humidity.

The complete unit is housed in an attractive green texture-lacquered cabinet—68" in height, 40" in depth, and 31½" in width for the smaller size; the larger size runs 45" in width. There are two sizes available, the SP-2 with an input rating of 90,000 B.t.u.'s per hour, and the SP-3 with an input rating of 135,000.

Some of the outstanding features of this new unit are: The patented Mueller Heat-Speeder steel section which sends warmed air into the home six to eight times faster than furnaces with old style heating units; return air surrounds the heating unit, eliminating radiation heat loss, and assuring a cool outer cabinet; return connections may be made on any of the four sides; ample filter area; rubber-mounted multi-blade type fan. A patented plenum chamber which permits use of any or all four sides of either return or supply connection is furnished as optional equipment.



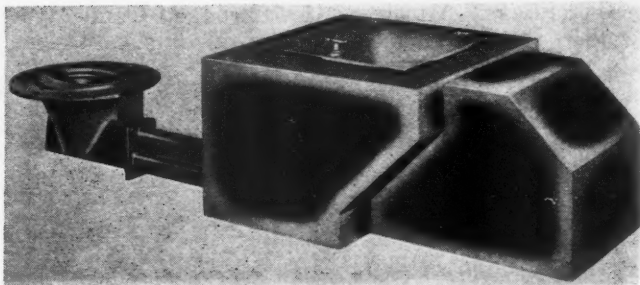
CUTAWAY view of gas-fired winter conditioning unit showing filter and fan location at bottom.

## Stoker for Homes or 2-Flats

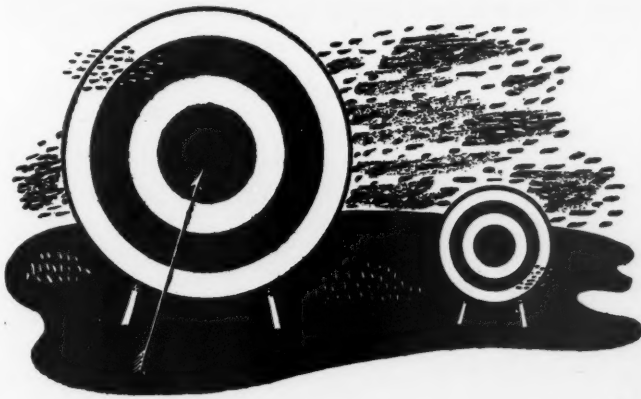
KOL-MASTER Corporation, Oregon, Ill., is offering a complete line of single retort, underfeed, screwfeed stokers in a full range of domestic, commercial and industrial models from 30 lbs. to 1600 lbs. per hour capacity.

The new Challenger for domestic jobs is complete with such patented Kol-Master features as dial-set combustion control, reverse-flight feed screw, horizontal feeder plates, smoke-back prevention, etc.; it also has the same drive, retort, dead plates and totally enclosed motors as the de luxe line. In keeping with the modern trend toward utility design, a hooded compartment is provided for gear box, motors and control equipment.

The hopper is just 22" high for easy clearance under any standard firebox door; is centered directly on the feed screw; has 300 lbs. capacity.



CHALLENGER Coal Stoker designed for domestic jobs.



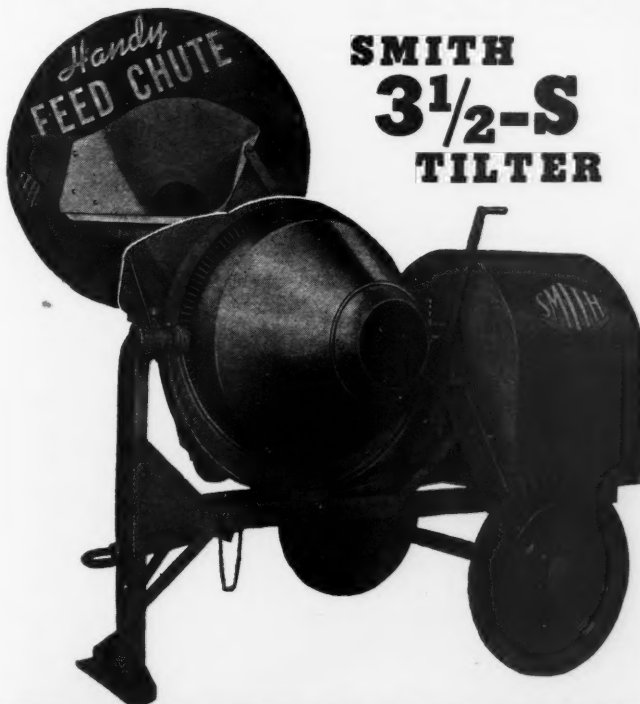
## It's Easier to Hit a BIG TARGET

Just as an archer is more apt to hit a BIG bullseye, so the shovelman on a concrete job finds it easier and faster to charge a feed chute mixer.

The Smith 3½-S Tilter is the ONLY small mixer equipped with a feed chute. The handy Smith chute is 31" wide, and only waist high — a big roomy target for the shovelman to shoot at. Compare this with the average "tub" mixer which has no feed chute and a drum opening only 18" wide.

The Smith feed chute is included as standard equipment. It prevents spilling, speeds up charging and saves time on every batch. Other Smith features include: famous "End-to-Center" mixing action—fast "Tilt and Pour" discharge—pneumatic tired, roller bearing wheels. Write for literature.

**THE T. L. SMITH COMPANY**  
2849 N. 32nd Street Milwaukee, Wis., U.S.A.

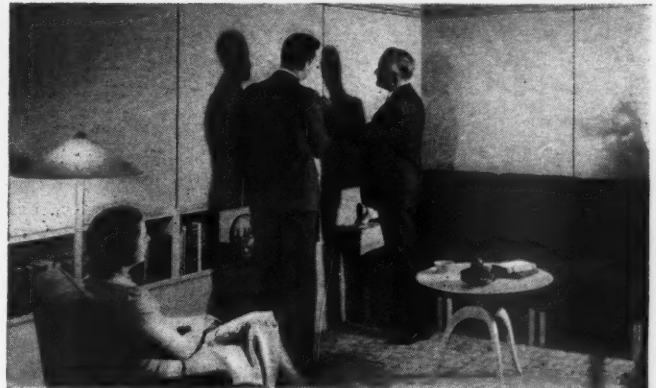


**SMITH MIXERS**  
THE BOULDER DAM MIXERS

A 2300-½

# MASONITE

**SHOWS HOW ONE GOOD  
JOB LEADS TO ANOTHER**



**MR. S.:** You certainly have a smart-looking home, George. How did you ever get such beautiful walls and ceilings? They look like a million.

**GEORGE:** It's easy . . . with MASONITE Products. Those boards will do just about everything you want them to do — including saving you money.



**MR. S.:** I'm glad to find out about MASONITE Products. I've been intending to do a lot of remodeling in my home, and these are just the effects I want.

**GEORGE:** I'll give you the name of my builder. He has a lot of swell ideas I think you'll like. And he always uses Genuine MASONITE.

• There's an air of quiet relaxation in the neutral tones of the suede-like finish MASONITE QUARTERBOARD has given to George's library. Ceiling and trim were also achieved with these grainless boards. The practical, out-of-the-way bookshelves are lined with MASONITE TEMPERED PRESWOOD.

You can achieve many new and unusual results with Genuine MASONITE . . . permanently . . . inexpensively. Mail the coupon for free samples and full information. And remind your clients that new-building and remodeling loans are easy to secure under F.H.A. Your lumber dealer has complete details.

Copyright 1938, Masonite Corporation

**FREE  
SAMPLES**

**MASONITE**

**MASONITE**

THE WONDER WOOD OF A THOUSAND USES

A MISSISSIPPI PRODUCT

Sold by Lumber Dealers Everywhere

Masonite Corporation  
111 W. Washington Street  
Chicago, Illinois Dept. ABS

Please send me FREE samples and full information about Genuine MASONITE QUARTERBOARD and MASONITE TEMPERED PRESWOOD.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



*Wall beauty*  
**ENHANCES THE VALUE . . . .**



## IT PAYS TO BUILD BETTER WITH OHIO HYDRATE LIME FINISH



Year after year, demand continues to grow for the beauty and "noise-reducing" properties of Ohio Hydrate Finishing Lime plaster! . . . All Ohio Lime is 99½% pure dolomite, manufactured in thoroughly modern plants—assuring high uniformity. Plasterers favor Ohio Lime because it is highly plastic . . . cool and fat . . . easy spreading . . . preserves metal lath . . . has definite acoustic properties . . . and is splendid as a decorating base. Ohio Sanlime Sand Finish is ready mixed—offered in a variety of popular colors. Ohio Ritewall Hair-Fibred Lime Plaster is widely used for scratch and brown coats. . . Depend on Ohio

Lime in Zig Zag Bags for every building requirement! The Ohio Hydrate & Supply Company, Woodville, Ohio.

### BUILD BETTER WITH LIME in famous ZIG ZAG BAGS

Ohio White Finish—Hawk Spread  
 White Finish—Ohio Ritewall  
 Fibred Lime Plaster—Ohio San-  
 lime Finish—Mastite Masonry  
 Mortar—Ohio Masons Lime  
 —Ohio Ground Lime.

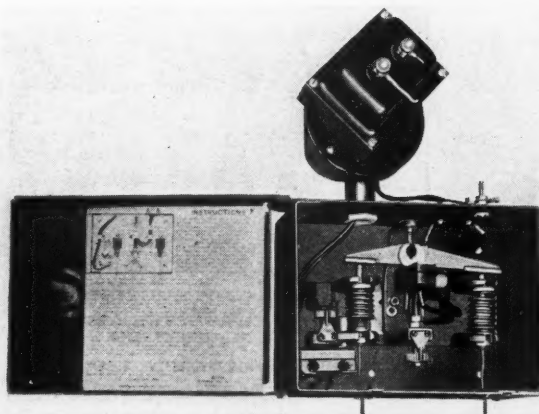
Illustration: Residence of Dr. L. E. Sutton,  
 Syracuse, N. Y. Architect: Paul B. Sweeney.  
 Builder and Plasterer: Skeels Construction  
 Co. Hawk Spread Finish Lime furnished  
 by Cummins Supply Co.

**OHIO WHITE**  
 LIME FINISH

## New Hot Water Heating System Controlled by the Weather

**A**FTER years of research and exhaustive tests in scores of residences, the Hoffman Specialty Company, Waterbury, Conn., has developed the Hot Water Controlled Heat System. It is based on continuous circulation of the heating medium. The brain of this new hot water heating system is the patented Hoffman Temperature Controller.

Temperature control is based on a balanced condition between outdoor and radiator temperatures. The automatic Temperature Controller anticipates weather changes. Water circulating through the pipes and radiators is automatically held to the temperature which exactly offsets the heat loss of the building at any given outdoor temperature.

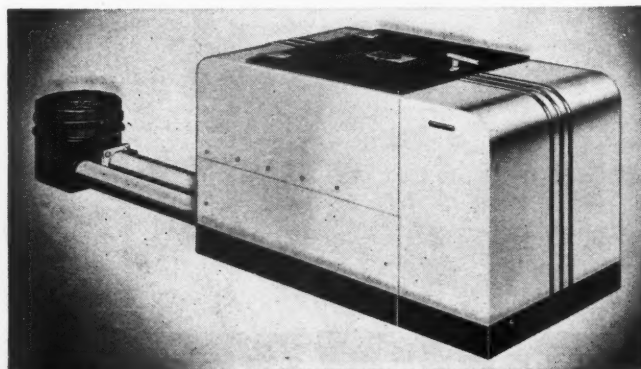


THIS is the brain of Hoffman Hot Water Controlled Heat which maintains balance between heat supply and outdoor temperature.

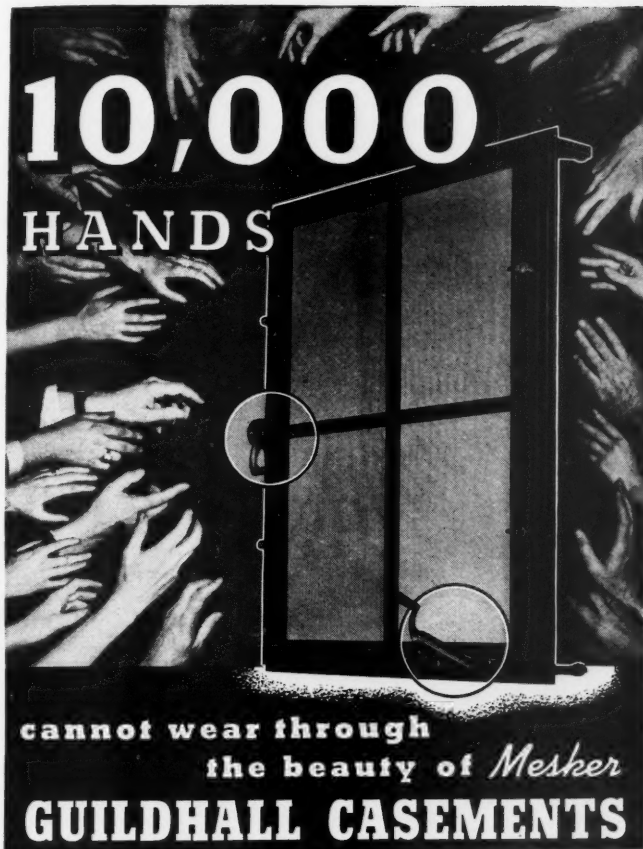
## Complete New Line of Stokers

**T**HE Econ-O-Col Stoker Division of Cotta Transmission Corp., Rockford, Ill., has announced a new stoker line of 19 models. The streamlined domestic model illustrated, which is available in two sizes, features a sectional retort with strong walls, solid anchorage, and "chevroned" air openings; a rigid, copper-bearing, seamless steel delivery tube; full ¾" abrasion-resisting alloy steel feed screw with specially designed, smaller diameter flights in the hopper to eliminate segregation of coal; a big, specially-developed obstruction cleanout to save time and work; heavy, copper-bearing steel, "ventilated" hopper that is "knee-height" for easier filling; "Marvel" air volume control that "really works" and slashes fuel costs; the famous free-rolling, power-saving, automotive-type, continuous feed transmission which makes Econ-O-Col the "strong-hearted" stoker; a patented electric safety shear-pin switch which stops both motor and fan if an obstruction impedes the flow of coal; and a motor and fan specially designed and mounted for quiet, efficient operation.

Two new bin-feed models, an "Imperial" line of five models for homes and small commercial jobs, plus eight heavy-duty stokers for commercial and industrial applications complete the line.



STREAMLINED coal stoker for home heating plants.



**10,000  
HANDS**

cannot wear through  
the beauty of *Mesker*  
**GUILDHALL CASEMENTS**

...for they are **STANDARD EQUIPPED WITH**  
**SOLID BRONZE**  
*Feathertouch* **HARDWARE**

That is why contractors and dealers everywhere are now buying Mesker. They know that only in Mesker Guildhall Casements can such extra value be found...and *At No Extra Cost!*

*The Beauty* of any casement is accented by its hardware...and only solid Bronze hardware will remain chip proof and beautiful indefinitely under the constant wear of every day use.

### Contractors...

The new Mesker Residence Erection Sheets are now ready. Shows photos, plans and erection details and tells how and where to install Mesker Guildhall Casements in Modern Residences. Send for your free copies today!



### Dealers...

The new 1938-1939 Mesker Dealer Handbook of Steel Sash is just off the press. Gives up-to-the-minute information on new sizes and prices of Mesker Steel Sash. Cuts estimating time in half. Write for your free copy!

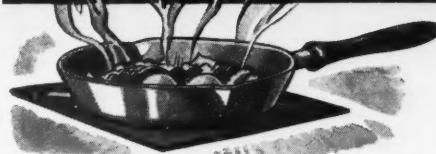


**Mesker**  
SINCE 1879  
MESKER BROS., 424 SOUTH 7th ST., ST. LOUIS, MO.



*The Champion of all  
KITCHEN EXHAUST FANS!*

**VICTOR  
In-Bilt  
VENTILATORS**



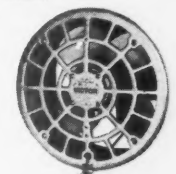
Here's a feature that will make any home sell easier. A Victor In-Bilt in the kitchen tells your prospect that your home will always be free of cooking odors, greasy fumes and smoke. What's more, Victor Ventilators can be used in bathrooms, recreation rooms, bedrooms and laundry rooms to keep the air fresh and make the home thoroughly comfortable.

### The Only Complete Line!

Victor offers a really complete line—three attractive models to fit any size house or apartment and any type of construction. Such outstanding features as automatic operation, weather-tight shutters and super-powered motors are included in every Victor Ventilator. Get the facts about Victor's quality-built, trouble-free Ventilators—mail the coupon now!



**THE DE LUXE**  
A powerful exhaust fan for large kitchens—features three-speed control, easy cleaning and special quiet blades.



**THE STANDARD**  
Ideal for average size home, easy to install even over cabinets or where wall space is limited. Excellent for recreation rooms, too!



**THE MASTER**  
For small kitchens and apartments or where price counts. It's the Master! Also, the perfect ventilator for bathrooms and laundry rooms!



**VICTOR ELECTRIC PRODUCTS, INC.**  
726 Reading Road, Cincinnati, Ohio

Rush us a free copy of your Ventilation Data Book showing your complete line of Victor In-Bilt Ventilators.

Name .....

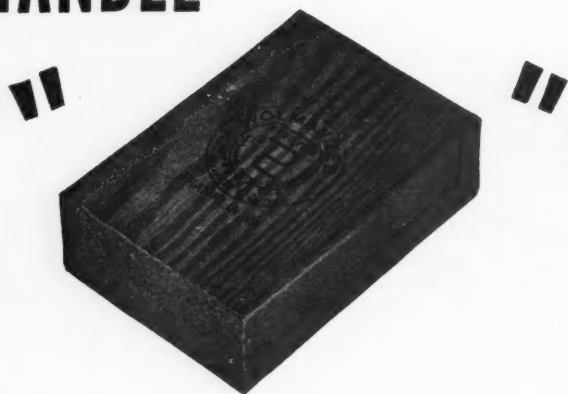
Address .....

City ..... State .....

Please indicate whether you are Architect, Builder, Elec. Contractor or Owner .....

**FREE!**

# HANDLE



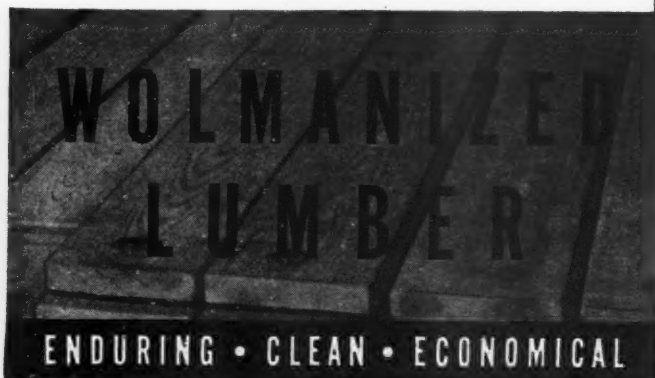
**Without gloves...it's safe and easy to use, it saves money**

One sample of Wolmanized Lumber\* will show you how clean and safely handled it is. A truck load will show you it costs no more to work with, is easy to use. And the resulting construction is far sounder, because Wolmanized Lumber gives lasting protection against damage by termites and decay.

So, Wolmanized Lumber makes lumber substitutes needless and obsolete. Every carpenter can use Wolmanized Lumber, to get the enduring construction which modern ideas demand. Wolmanized Lumber is odorless; it can be painted and stained. Because it is used strategically, only at danger points such as sills, joists, and subfloors, it adds less than 2% to total cost on average houses. The extra value is recognized by banks and financing agencies.

Ask your lumber dealer. He can supply promptly, because all parts of the country are served by our fourteen plants. For detailed information, write today to **AMERICAN LUMBER & TREATING COMPANY**, 1406 Old Colony Building, Chicago.

\*Registered Trade-mark



## Lightweight Sink and Laundry Tray

**A** NEW combination sink and laundry tray has been developed by the Briggs Manufacturing Co., Detroit, Mich. This porcelain enameled fixture is designed for apartments where space is small, and is also appropriate for smaller hotel suites or private homes.

It is 42 inches long, with adjacent basins approximately 12 and 7 inches deep, and is made without welds from a single heavy-gauge sheet of Armco ingot iron. The new unit will be supplied in acid-resisting porcelain enamel, white or colors.

Dimensions of the new sink and tray combination are: length, 42"; width, 22½"; backsplash, 8"; sink basin, 17¾" long, 16½" wide, 7½" deep; laundry tray, 17¾" long, 16½" wide and 12" deep. The approximate shipping weight, crated, is 98 pounds. The fixture is also available in the flat-rim style for cabinet layouts.



GIANT presses are used to stamp out this sink and tray.

## New Mill Produces 6x10 Foot Veneers

**T**HE Meyercord Compound Lumber Company has gone into production at Mobile, Ala., producing veneers in sizes up to 6 feet by 10 feet. This increased size has been made practical for commercial purposes, owing to the improved methods of drying the sheets at only 130° Fahrenheit, in a specially designed drying kiln. The process eliminates acids and salts that cause case hardening, hence checks and split pieces have been practically eliminated, and waviness, inherent in ordinary veneers, has been materially reduced.

As a result, there is far less waste for the plywood manufacturer, enabling him to produce panels that are more economical to handle at a price that compares favorably with resinous western veneers. At present the veneers produced are largely southern hard woods.



LARGE SHEETS of veneer as seen at the right are possible through use of a special drying kiln.

— So much **SIMPLER** to Install  
 — So much **SMOOTHER** in Operation  
 — So much **SATISFACTION** in Use

### The New Rō-WAY Model "J" with Rō-To Live Spring (Patented)

Here is the secret of the simplicity, smoothness and trouble-free operation of this remarkable new door. One powerful coil spring, which delivers equalized lifting power from its two ends, does away with turnbuckles and counter-balancing gadgets. This spring is placed above one of the horizontal tracks, and because it has no "dead end" and *both* ends work, lifts both sides of the door at exactly the same time with exactly the same power . . . *always*. The result is total freedom from side drift and a genuine "coasting smoothness" in operation.

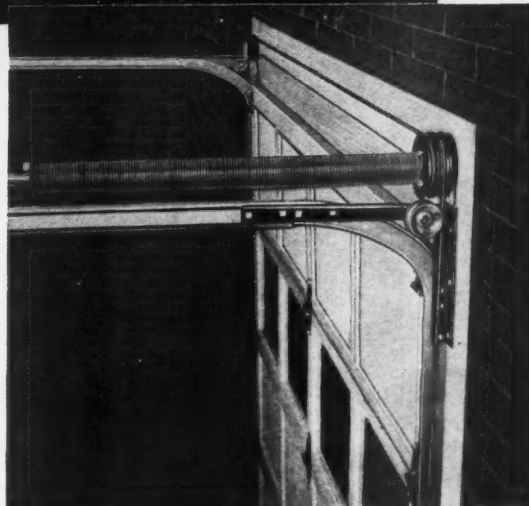
The track attaches directly to the door jamb, thus reducing side room requirement to only 3 3/8". Only 14 inch headroom is required.

#### Here's how it works!

The Ro-To Live Spring is *full floating*. One end of it is attached to the rotating ball bearing shaft which carries the far sheave, or pulley. The other end of the spring is attached to the near sheave, or pulley, as shown in the illustration at right. Closing the door immediately starts both ends of the Ro-To Live Spring into operation. One pulley turning one way and the other pulley another way results in double-quick coiling of the spring, and double storage of lifting power. Now, when the door is opened, immediately this stored double power is transmitted, smoothly, evenly, quietly, to both sides of the door in a powerful *balanced lift*, which is always absolutely vertical . . . always free from side drift, binding and sticking.

Get all the facts about this sensational new type door . . . already in use in more than 3,000 residence garages. Illustrated Folder and Price List Free on request.

**ROWE MANUFACTURING CO.** 767 Holton St.  
 Galesburg, Ill., U.S.A.



**Other Advantages of Rō-WAY Model "J" Door**  
 Tracks attach directly to jamb . . . no off-set brackets . . . lower headroom requirement . . . only 3 3/8" sideroom requirement . . . impossible to jump track, etc.

Other models of Ro-Way Doors are available for all sizes . . . all buildings . . . electrically operated if desired.

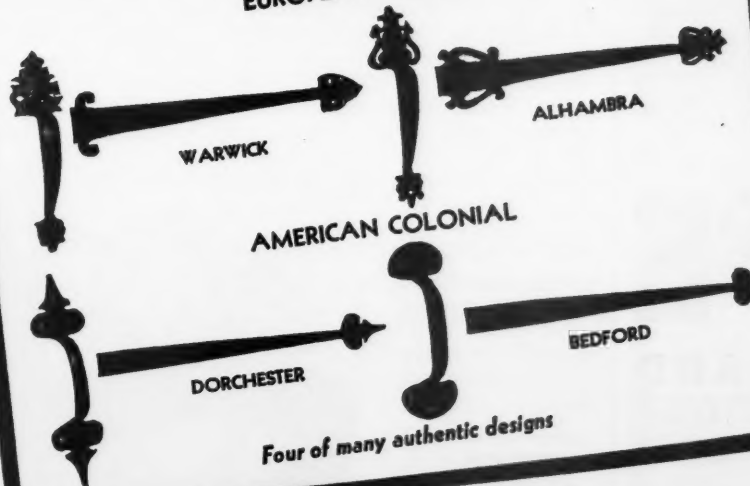


# MCKINNEY

## Forged Iron HARDWARE

*offers Everlasting Beauty*

EUROPEAN DESIGNS

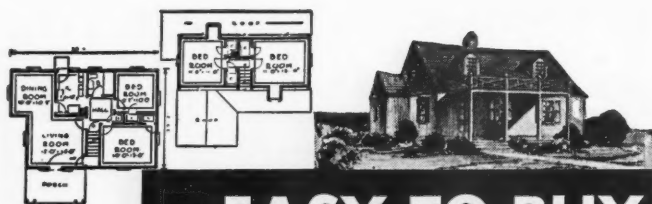


The true spirit of the time and country that gave it birth is retained in the design of every piece of McKinney Forged Iron Hardware. English, Spanish, Italian or American Colonial, McKinney designs are authentic designs, and the texture of the metal is maintained as it was by craftsmen of long ago.

Accurate for application and priced within the range of the most modest home owner. Write for details.

**MCKINNEY MANUFACTURING CO.**  
 PITTSBURGH, PA.

DESIGNERS AND MANUFACTURERS OF GOOD HARDWARE FOR 72 YEARS



**—EASY TO BUY**



*means* **EASY TO SELL**

By the **PRECISION-BUILT METHOD**...and our spectacular advertising and merchandising plans—more than \$1,750,000 of new homes have already been erected...Are you getting your share?

Precision-Built Homes are erected in 10 to 30 days—complete. Important savings make these houses attractive to all. Speed in construction closes sales otherwise delayed and lost forever.

Working with your local lumber dealer, you and your client arrange all details of plan, estimating, financing and building in two to three days' time. Easy to buy means easy to sell.

Let us send you the details of the Precision-Built Method. You get active leads from us, as well as from your local lumber dealer, realtors and architects. Our field man helps you get organized—gives you a complete and thoroughly tested method of promotion.

You handle three times as many

jobs with one crew—your construction money is tied up for 30 days or less, instead of 90. Except for weather limitations on excavating, you build all year round.

Write today for free descriptive book and for our Simplified Method of Estimating—more accurate estimating in far less time.



**WEATHERPROOF  
HOMASOTE  
INSULATING  
AND BUILDING BOARD**

HOMASOTE COMPANY, TRENTON, NEW JERSEY

Send FREE literature on

- ☐ Precision-Built Homes ☐ Homasote Big Sheets  
☐ Simplified Method of Estimating

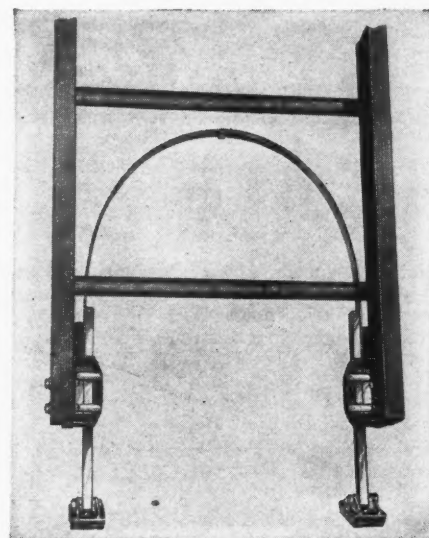
Name \_\_\_\_\_

Address \_\_\_\_\_

34

### "Magic" Ladder Equalizer

THIS automatic, self adjusting ladder base is a product of the Hall Manufacturing Co., Cedar Rapids, Ia. The device is simply bolted to the ladder. Without any attention or adjustment it automatically equalizes any unevenness on the place where the ladder is set. The Magic Ladder Equalizer stays permanently on the ladder. It is made of best quality steel, tempered spring steel, and certified malleable castings.



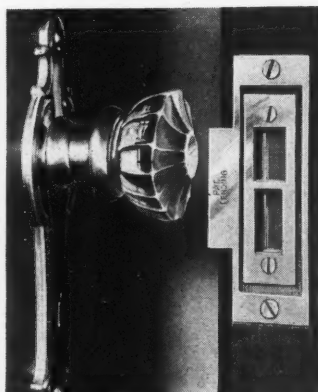
BASE automatically adjusts itself to any unevenness of spot where used.

### Easily Adjustable Lock Strike

AN adjustable lock strike has been perfected by the Flora Manufacturing Co., Danville, Va., which allows quick adjustment in any direction to properly engage the latch and bolt.

With this device no remortising is necessary to take up play or shift. Milled surfaces on the two surfaces of contact, between the inner and outer parts of the strike, are locked together with two flat-head bolts after proper setting is made.

The lock strike is durably constructed of solid brass; it will fit right or left hand doors.



WHEN once installed, lock strike can be easily adjusted.

### Compact, Lightweight 3 1-2-S Mixer

A NEW 3 1/2-S Mascot has been designed and built by the Kwik-Mix Concrete Mixer Co. of Port Washington, Wis. Compact construction features an air-cooled gasoline engine mounted within the natural overall dimensions of the mixer proper. No additional structure has been added for this purpose, to unnecessarily increase the overall dimensions of the mixer. The end discharge feature permits wheelbarrow spotting, without turning or backing. Less than 1000 pounds, it is easily handled, spotted or trailed.



NEW 3 1/2-S lightweight mixer in operation.

~~Ready except  
the metal work—~~

**READY!**



● We've crossed out that old bugaboo and it stays crossed out.

Now, by using galvanized Armco PAINTGRIP, your sheet-metal work can be ready on time—nicely painted—when the rest of the house is done.

No more waiting for weather to roughen a slick surface. No more treating gutters, downspouts, flashing and exposed air ducts with zinc-destroying acid.

Paint really sticks to Armco PAINTGRIP; and because of a unique insulating film, it remains flexible for a long time. Think of how this will appeal to your clients.

Add to this the durability of an ARMCO Ingot Iron base metal and you have the perfect galvanized metal for all work to be painted.

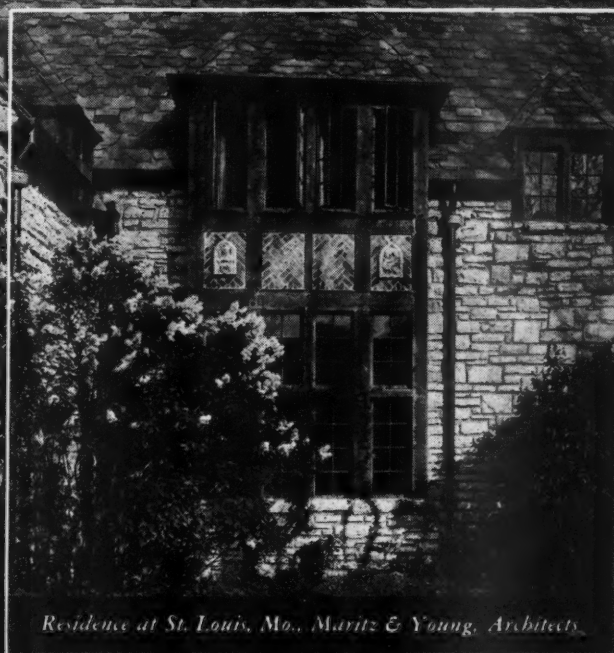
Use Armco galvanized PAINTGRIP on that next job and see for yourself. If your sheet-metal contractor can't tell you more about it, just write to us. The American Rolling Mill Company, 1951 Curtis Street, Middletown, Ohio.

**ARMCO GALVANIZED  
PAINTGRIP SHEETS**



# HOPE'S

1818 *The Name Guarantees* 1938



*Residence at St. Louis, Mo., Maritz & Young, Architects*

## Helping the Dealer Build a Profit

Dealer organizations, interested in featuring those lines offering the greatest potential profit in the present market, will welcome the features offered by a Hope's franchise.

Hope's Steel Casement Windows combine artistry in design with unequalled strength in construction and enduring, permanent finish. And they are intelligently priced.

Descriptive literature will be sent to interested dealers immediately upon request.

**HOPE'S WINDOWS, Inc.**

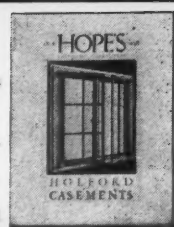
*Jamestown, N. Y.*

HOPE'S WINDOWS, Inc.  
Jamestown, N. Y.

Send copy of descriptive literature of Hope's  
Windows and dealer proposition.

Name \_\_\_\_\_

Address \_\_\_\_\_



AB-1



It's hard to believe that this fitting does a pumping job fur each radiator. But even if you don't believe it, don't make no difference. It does it just the same.

*Hank*

**Sez—**

## Here's A REAL Way To Save Money On Hot Water Heating

**BY** HECK, it's just plumb foolish to pay out money fur two pipes, when you can save money by using one. But the saving there is, ain't all there's to it by a jug-full. You get better heating by a-doing it. That is to say, you do, *if* you do it the Burnham way.

And now you are asking me, how it's done that way, which is exactly what I was fishing fur you to be asking.

You do it by using the Burnham-Taco Venturi Fitting. *One* to each radiator. And I didn't say *two*. Just *one*.

Besides which, you use the Burnham Pusher Pump, which gives a shove to the circulation that ain't maybe.

But 'tain't so important right now how it's done with one pipe, as that it can be done, and be saving you money. So better had you be using some of that smart thinking of yourn and send to us at once fur the full facts. And don't put off a-doing it till tomorrow or maybe next week. *Now* is the only time you got *at hand*. Maybe there won't be no next week or sumptin'.

*Hank Hinds*

**BURNHAM BOILER CORPORATION**  
Manufacturers of Heating Equipment Since 1873.  
Irvington, New York      Zanesville, Ohio  
Export Department  
50 Church Street, New York

*Burnham Boiler*

# News of the Month

## Building Activities and Meetings

### Residential Contracts for First Half of May Indicate Increase Over Same Month of Last Year

**R**ESIDENTIAL building contracts awarded in the first half of May exceeded figures for the corresponding period last year for the first time since the current recession started, according to F. W. Dodge figures.

Residential construction contracted for in the 37 states east of the Rocky Mountains totaled \$39,694,000 in the two week period, compared with 38,228,000 in 1937. The upturn was not accounted for by large scale housing, the statistical organization stated.

Building and engineering contracts for the month of April amounted to \$222,016,000. This total figure was 18 per cent below the one for April, 1937 (last year's peak month); it was only 2 per cent under the total for March, 1938. Six out of fifteen districts included in this eastern territory showed increased total contracts over April of last year.

While the number of small-house units increased 5 per cent over March, apartment contracts were somewhat smaller, and the April dollar total for all residential building, \$74,577,000, dropped 6 per cent from the preceding month and fell 31 per cent below the peak figure of April, 1937. Non-residential contracts in April amounted to \$80,435,000, compared with \$96,326,000 in April 1937 and \$87,823,000 in March 1938; commercial and industrial building continued on moderate levels and public building projects have been somewhat on the increase. Public works contracts, amounting to \$57,631,000 last month, increased 27 per cent over the corresponding month of last year and 18 per cent over March of this year.

Public utilities construction, amounting to \$9,373,000 in April, fell somewhat behind both April 1937 and March 1938. Publicly financed projects of all kinds ran 34 per cent ahead of April 1937, and privately financed projects ran 37 per cent behind last April.

The figures for the first half of May are as follows:

37 Eastern States	May 1-15, '38	May 1-15, '37	May 1937
Residential .....	\$39,694,000	\$38,227,000	\$83,937,000
Non-Residential .....	28,066,000	39,554,000	93,965,000
Public Works .....	29,423,000	23,067,000	56,076,000
Utilities .....	3,193,000	4,871,000	9,760,000
Totals .....	\$100,376,000	\$105,719,000	\$243,738,000

### Home Builders' Contest Offers \$20,000 in Prizes for Better Homes

**A**S a practical stimulus to sound construction, good architecture, quality materials, approved equipment, and "better living" in the broad sense of the term, the General Electric Company is offering \$20,000 in prizes in a lively new Home Building Contest.

Contractors and operative builders are eligible to enter homes they own on which construction or modernization was started after February 1, 1937, and which will be completed before December 24, 1938.

An interesting feature of the competition is that the builder may enter the house himself, or when he sells a house he has built may assist the owner in entering the house in this competition. The 20 winning homes will each receive \$1,000 prizes.

To focus attention on the sound basic requirements of today's better home, a broad "Ten Point Specification" standard has been set up covering elements of good housing from architecture to electrification. The judges will award the \$1,000 prizes for G. E. equipped houses which, in their opinion, come closest to fully meeting these specifications.

Builders interested in entering homes in the competition can obtain an Official Entry Form and complete contest data from the General Electric Home Bureau, Department G, 570 Lexington Avenue, New York City.

Because it realizes that home construction is a local industry,  
(Continued to page 98)



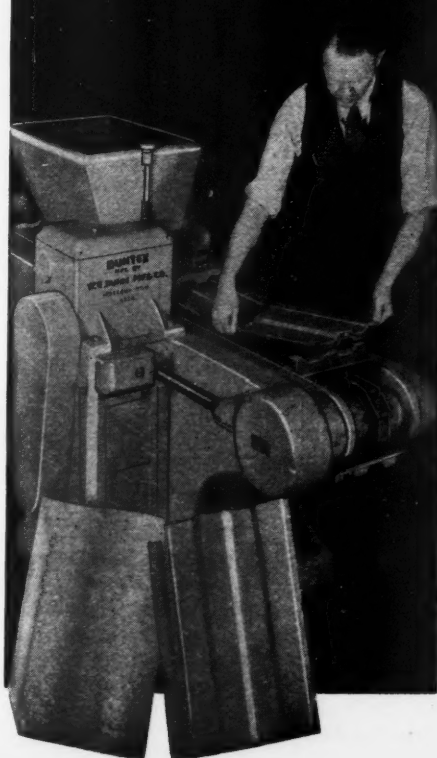
*Equipped with*  
**Clearlite**  
SHEET GLASS  
ON THE WALL

Home of Dr. W. D. Powell,  
Ft. Smith, Ark.  
Architect: Haroldson & Mott  
Contractor: Meadors & Packard.  
Specify Clearlite Quality  
Glass, because of its clear-  
ness, brilliant lustre and  
perfect flatness.  
**FOURCO GLASS CO.**  
CLARKSBURG, W. VA.  
Branch Sales Offices: New York  
Chicago • Ft. Smith, Ark.

Approved for Clearlite

BUY  
WINDOW GLASS  
MADE IN  
U. S. A.

# PROVEN EARNING POWER



When DUNBRIK Manufacturers show sales of three million brick per year with production costs as low as \$5.00 per thousand—others with selling price of 100% over cost—proves the great earning power of this line-production brick machine.

These enviable records are the result of producing a superior product,—lighter weight, greater strength, lower absorption, absolute accuracy, and with true corners. In addition, multiple sizes of standard brick (DUNSTONE) can be produced that permit hollow, insulated wall construction at cost level of frame.

Write today for new book "4 Keys to Success" and learn about this wonderful machine, permitting large production with only one or two men and costing but a fraction of what would be required for other processes of equal capacity.

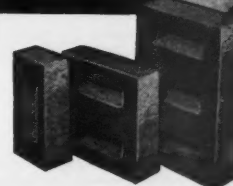
## DUNTEX ROOF TILE MACHINE

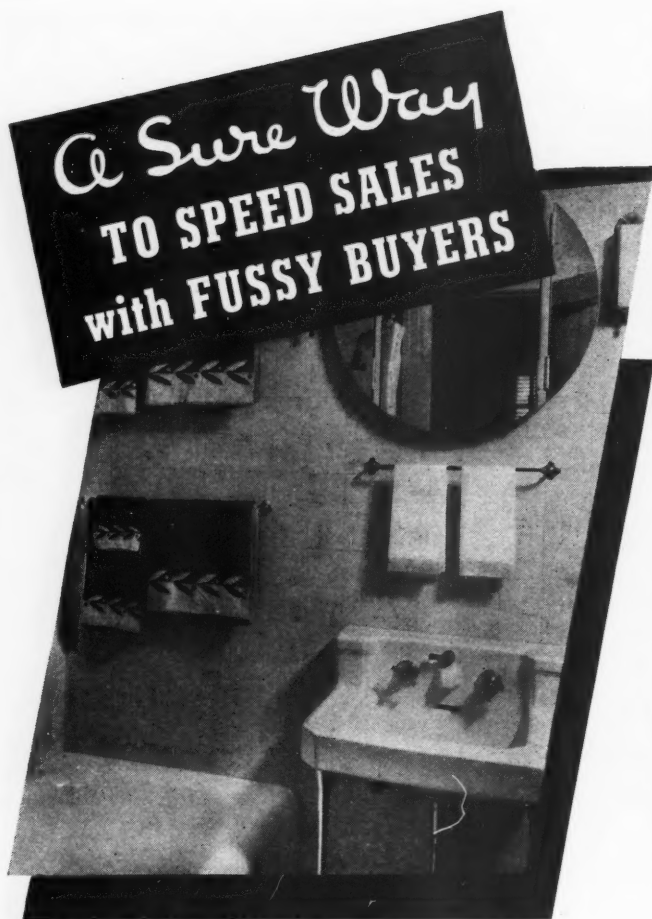
With this machine you can dominate the vast roofing material market with a product unequalled in value, permanence, beauty and fire safety. Your manufacturing costs are low, investment moderate, and selling prices offer attractive profit. Send today for "DUNTEX Survey."

**W. E. DUNN MFG. CO.**

450 W. 24th St.

Holland, Michigan





MR. and Mrs. Prospect look over one of your jobs. They like it. The sale "looks good" . . . and then the Missus, who has been reading up and looking about . . . hesitates over those walls.

She's fussy. She wants "the last word" in construction . . . she wants *permanent, beautiful and easily cleaned walls* in the '38 style.

That's where colorful, successful Tile-Tex, the new decorative wall material, welcomes her inspection and *helps your sale*. She readily admits the modernity of Tile-Tex . . . instantly admires the exquisite colorings . . . visualizes how easily they can be kept clean.

For *new job . . . or modernized . . .* Tile-Tex Walls—and Floors—offer low cost and high efficiency . . . and our nearest Distributor has a real fact story for you. Write for his name and a copy of the new folder, "Decorative Walls By Tile-Tex."

**TILE-TEX Company** CHICAGO HEIGHTS ILLINOIS

**OR YOU MIGHT CARE TO REPRESENT  
US IN YOUR TERRITORY**

The Tile-Tex Company  
Chicago Heights, Illinois

If my territory is open, I would like to have complete information on the Tile-Tex Dealer's proposition.

Name \_\_\_\_\_

Address \_\_\_\_\_

## NEWS—(Continued from page 96)

the General Electric Company has enlisted the cooperation of a large number of local utility companies several of whom are planning to sponsor local building contests. Builders in these communities are thus eligible for both the local and national prizes.

"It is our conviction that the building industry and the public at large are mutually interested in better homes," declares Clifford W. Stuart, manager of the G-E Home Bureau, sponsors of the contest.

"We believe that they realize that there is a new standard of healthier, happier living available today, which we call 'Electrical Standard of Living'."

He points out that a tremendous transition from mere shelter to "better living" has taken place in the field of home building within the past five years. To keep a home from being obsolete before it is completed, the builder of today must have the new contributions to comfort, health, convenience, enjoyment, relaxation and freedom which modern equipment now provides.

Every investigation, Stuart points out, brings to light one common denominator:—successful builders are those who recognize that the public today is alert to new conveniences and comforts and demands them in the homes it buys. A sound understanding of what constitutes a good home—proper planning, good construction, complete electrical and mechanical equipment—assures satisfaction and economy for years to come. He points out that today's long-term mortgage financing makes it cheaper to buy a home complete with all the modern electrical conveniences at the start than to add them later on in piecemeal fashion.

The Ten Point Specifications set up by General Electric as a measure of the better home of today include the following:

1. Good Location and Architecture
2. Sound Construction and Skilled Labor
3. Quality Materials and Equipment
4. Landscaping and Interior Decoration
5. Sound Financing
6. New Materials
7. Plumbing and Sanitation
8. Heating and Air Conditioning
9. Insulation and Sound-Deadening
10. Electrification
  - a. Wiring—for the future
  - b. Lighting—for vision
  - c. The electric kitchen
  - d. The electric laundry
  - e. Electric water heating
  - f. Other electrical services

## Co-ordinate U. S. Plywood and Algoma Plywood

THE co-ordination of manufacturing and marketing of Algoma products through the nation-wide outlets of the United States Plywood Corporation has been announced. The Algoma distributing units will hereafter be operated by the United States Plywood Corporation; their facilities will be enlarged and their inventories increased with a full line of "USP" products.

The combined resources of the two organizations provide a complete and economical service on plywood and allied products of all types. With mills in the North, South and West, with inventories strategically located at many points, immediate shipment of stock items in any quantities is assured as well as rapid service on made-to-order items, including resin-bonded plywood marketed under the trade name Weldwood.

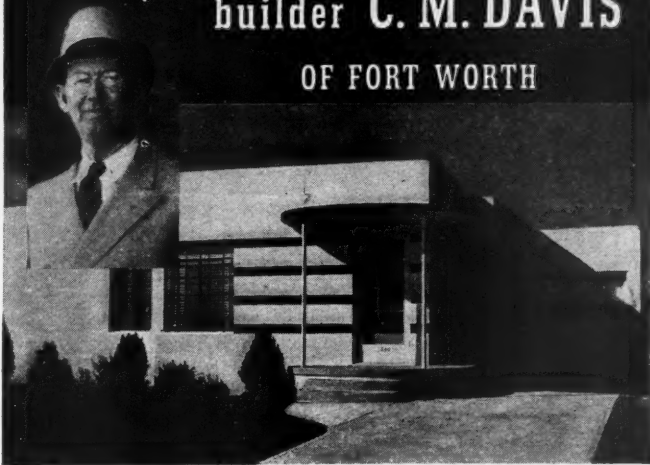
## J-M Guild Wins Recognition as Sales Plan

AT PHILADELPHIA on Apr. 25, the Johns-Manville National Housing Guild received first honorable mention in the annual competition for outstanding achievement in sales management which is sponsored jointly by the Sales Managers' Association of Philadelphia and the National Federation of Sales Execu-

(Continued on page 100)

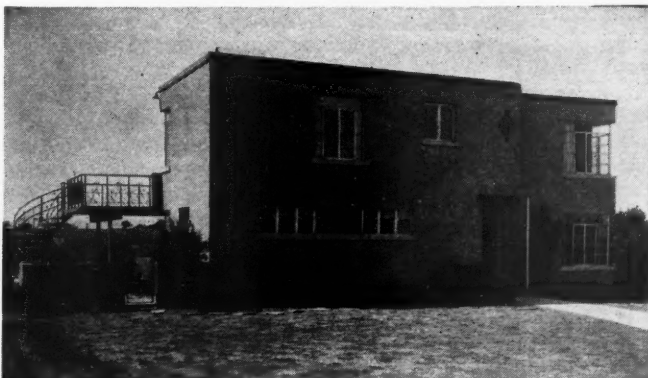
# Concrete's the stuff for homes

... says  
builder C. M. DAVIS  
OF FORT WORTH



**FIRST he featured firesafe concrete in seven speculative houses like this. And they went over big!**

They all sold or rented favorably in a hurry because people want these *structurally better homes* that are warm and dry in winter, cool in summer. Home buyers everywhere are learning about the advantages and economies of concrete construction through national advertising and from beautiful homes built for their friends and neighbors.



**NOW he has chosen concrete—walls, floors and roof—for his own permanent home.**

The more experience you have with concrete the more you will be sold on it. Build profits and prestige! Establish yourself as a leader by specializing in concrete. Write for helpful literature.

## PORTLAND CEMENT ASSOCIATION

Dept. A6-3, 33 West Grand Avenue, Chicago, Illinois

A National Organization to Improve and Extend the Uses of Concrete



## The Speed Magic of Speedmatic Brings Profits to You



Save more time cutting Jack Rafters



Trim edges accurately in half the time.



Eliminate saw and chisel work—save time.

Do your sawing with a tool that is saving time and money for hundreds of contractors right now. The Speedmatic Electric Hand Saw, with its guaranteed cutting speed and proven dependability, cuts faster, easier and for less on every sawing job. Finger tip adjustment for depth and bevel cutting. Balanced, safe and easy to operate. Built in four powerful sizes, to cut 1 7/8", 2 11/16", 3 1/8" and 3 5/8" material. Cuts wood, tile, composition, slate, marble and light metal. Let Speedmatic's speed and accuracy make you more money on every job.

### Write For This Free Book

The "Manual on the Use of Electric Hand Saws in House-Building" shows how hundreds of builders are saving time and making more money. Send for your copy today.



Please rush my FREE copy of the "Manual on the Use of Electric Hand Saws in House-Building." Also information on the following:

- ☐ Speedmatic Saws
- ☐ Floor Sanders
- ☐ Steel Woolers

Name .....

Address .....

City ..... State .....

The PORTER-CABLE MACHINE COMPANY

1721-6 N. Salina St.

SYRACUSE, N. Y.

# CASH IN WITH THIS NEW WAY TO MODERNIZE FREE BOOK TELLS THE STORY..

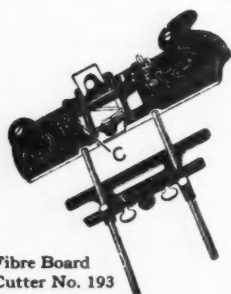


Send a post-card for this book today and you'll get — absolutely free — the whole story of a brand new way of modernization that's sure to bring you some profitable jobs!

## FIBRE BOARD WORK WITH STANLEY FIBRE BOARD TOOLS

**EASY TO SELL . . .** Modernization prospects will listen when you talk Fibre Board Decoration—because it's inexpensive—attractive—and practical for many modern uses.

**EASY TO WORK WITH . . .** Fibre Board is easy to put up when you have a set of Stanley Fibre Board Tools—and these tools will pay for themselves on your first few jobs. Make cutting, joining, decorating as easy as planing a board!



Fibre Board  
Cutter No. 193

**ACT NOW . . . .  
BOOK COSTS  
YOU NOTHING**

Right now while you think of it, send a penny post card or a note for this book. It's free, without any obligation to you, and it will probably lead you to some quick profits. Write to Stanley Tools, New Britain, Conn.

# STANLEY TOOLS

**STANLEY THE TOOL BOX OF THE WORLD**

## NEWS—

(Continued from page 98)

tives. The selection for second place honors of a building materials manufacturer is held to be significant when it is remembered that for years the building industry has been severely criticized for its lack of consumer selling activity.

Within the last two or three years, the National Housing Guild program has given the building industry a sales plan which, in the eyes of the Ford award judges, was superior to all but one submitted and these came, for the most part, from consumer goods firms which are dependent for their actual existence on intensive direct to consumer sales efforts.



ABOVE, left to right: J. O. Boylan, J-M Philadelphia District Manager accepting sales management award, with H. G. Ford and Roy H. Warmee.

## Mikolite Now Part of Lehigh Cement

THE manufacturing plant and business of Mikolite Company, 1100 S. Mill St., Kansas City, Kans., has become a subsidiary of Lehigh Portland Cement Company under an agreement completed at Allentown, Pa., by R. W. Rice, Mikolite president, who will be manager of the Mikolite division of the cement company. The move brings Lehigh, one of the nation's major cement companies, into Kansas City for the first time in a manufacturing capacity. The new Lehigh division will be operated from Kansas City.

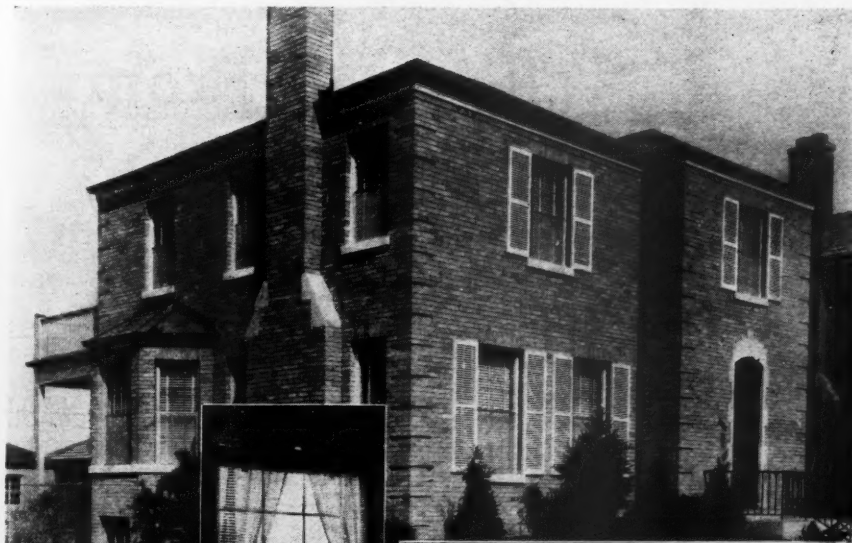
The product now is to be known as Lehigh Mikolite, and as such is to be offered to the thousands of dealers now handling other Lehigh products throughout the nation. As demand increases Mikolite expanding plants will be installed at many of Lehigh's fifteen cement mills.

## Claims Screw-Type Nails Reduce Splitting and Waste

A PERSISTENT enemy of efficiency in laying 25/32" thickness hardwood flooring is the splitting frequently encountered by the mechanic in the use of 2 1/2", or 8d, nails, according to W. W. Miller, Hillwood Manufacturing Co., Cleveland, O. "This splitting," he says, "allows the face of the strip to rise above the adjoining strip and is also responsible for a large percentage of squeaky floors. Despite their use by many floormen the 8d nails are unnecessarily long and thick. Moreover, there is considerable loss of the nails themselves, and the time of the floor mechanic in pulling out bent nails.

"A valuable aid to fast, economical hardwood floor laying is, first, a solid subfloor screwed down with flat head 2 1/4" No. 6 screw gauge spiral screw nails. These nails drive like nails, turn and hold like screws, and will prevent a certain amount of shrinkage. Second, the hardwood flooring should be applied with the new 1 3/4" No. 3 tempered spiral floor screw nail which provides for a greater anchorage than most other types in common use."

## For the BETTER OUTLOOK in Homes of Today



Residence of William A. Sipp, 1225 N. Fair-oaks Ave., Oak Park, Ill., Gust Fredrickson, Contractor, equipped throughout with Ad-lake Aluminum Double Hung Windows, integrally weather-stripped; built-in half length screens.

**25 YEARS EXPERIENCE  
MAKING METAL WINDOWS**

**T**YPICAL of the complete adaptability of Adlake windows to modern building practice is the installation throughout this air-conditioned home, which is built to 1938 standards in every detail.

Combining fine appearance with extreme weather tightness and ease of operation under all conditions, Adlake windows are equally suited to modern and traditional styles of architecture—for remodeling as well as new construction. Maximum glass area, built-in weatherstrip. Equipped to take screens, storm sash or air conditioning sash at any time. Available in all sizes by fractions of inches—for residential, commercial and industrial buildings.

Write now for detailed information, without obligation.

**THE ADAMS & WESTLAKE CO.**  
Chicago, Ill. New York, N.Y. Elkhart, Ind.

★ **Adlake** ★  
**ALUMINUM Double Hung WINDOWS**



**RELIABLE**  
**SCAFFOLD BRACKETS**  
*are saving MONEY  
for thousands of  
builders . . .*

Besides being safer, stronger, and more dependable, than wooden scaffolding, Reliable Scaffold Brackets cost less, are easier to erect and remove, and less bulky to handle. Savings are obvious. The brackets pay for themselves in a short time. Can be used on wood or stucco.

Write for catalog. Let us prove that they will save time and money for you.

**RELIABLE JACK CO., 1401 W. Second St., DAYTON, O.**

**RELIABLE**  
**SCAFFOLDING BRACKETS**

**CONTRACTORS Want Them**

*Because*  
**THEY are the  
BIGGEST PROFIT  
MAKERS MONEY  
CAN BUY**



**NO DIRT  
NO DUST  
NO MUSS**

### THE SPEED-O-LITE

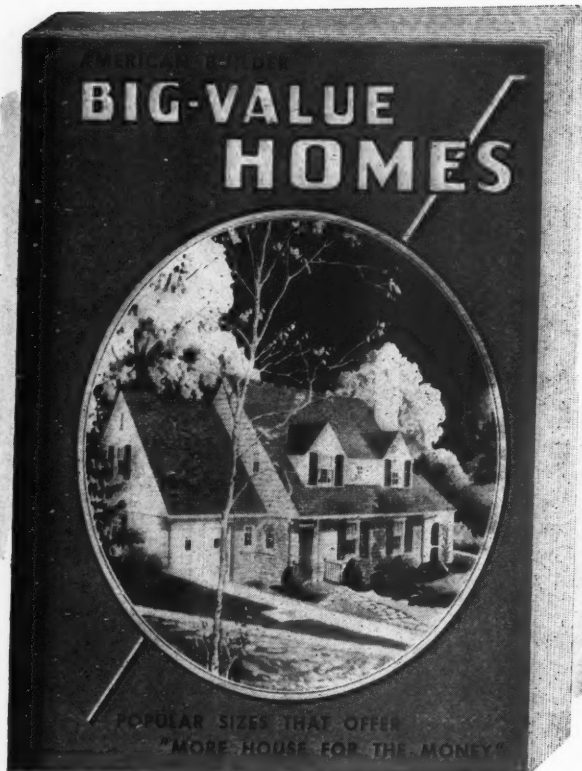
#### THE HIGH-SPEED • LIGHT-WEIGHT SANDER

The fast-cutting, clean-operating light-weight (80 lbs.) floor sander that plugs into any convenient outlet and turns out a professional job in record time with little effort. It sands right up to the quarter-round, picks up all dirt and dust, eliminating expensive hand labor. Leaves a ballroom finish on every floor. Easily carried up or down stairs by one man and pays for itself in savings on current, labor and materials. Prove this to your satisfaction with our 5-DAY FREE TRIAL OFFER.

#### The IMPROVED SCHLUETER HIGH-SPEED • HEAVY DUTY SANDER

The finest floor sander on wheels. It roughs out both old and new floors in a minimum of time and with minimum effort—without ridge cutting or chatter marking. The high-speed, resilient rubber-covered roller automatically conforms to all floor irregularities without extra weight over drum or manipulation of levers by operator. Handles large and small areas with equal speed and ease. Surfaces right up to the quarter-round, picks up all dirt and dust and leaves a smooth floor finish that will surprise you. Ball-bearing equipped throughout—full V-Belt Drive. Uses 110 or 220 volts by merely throwing interchange switch. Unconditionally guaranteed for 5 years. Write TODAY for details of our 5-DAY FREE TRIAL OFFER.

**LINCOLN-SCHLUETER FLOOR MACHINE CO.**  
222-24 W. GRAND AVE., CHICAGO, ILL.



172 pages, 8½" x 11½"—More than 300 Illustrations, Exteriors, Interiors, Construction Details, etc.—12 pages in 4 colors—Cloth-strip reinforced attractive heavy enameled paper binding.

## Outstanding Home Designs Selected From North, South, East And West

The prevailing local tastes and the best recent work of prominent architects and builders of all sections are represented in the ninety homes described, illustrated and amply diagrammed in the 172 pages of this latest and best of American Builder's Plan Books. These homes not only visualize for you the highest standards in today's home design, construction, equipment and materials, but also, with the feature articles embodied in the book and listed on the next page, give you the whole fascinating picture of the dollar-for-dollar higher value in 1938 homes as compared with the homes of 1926 and 1929.

## Out of the Busy East

### New Jersey

supplies us with ten fine suburban homes—among them the Front Cover Home, nestling in the hillside near West Orange, which gets more than the average usable area out of its 27,750 cubage, at one-third less than what it would have cost in 1929. . . . A charming creation with 1st floor bedroom and bath at Mayfair Gardens near Demarest. . . . Four cozy \$35 per month Colonials at Ridgewood. . . . A Colonial of simple charm and great dignity. . . . Three of Harold W. Cheel's popular "50% Better Value than 1926" homes.

### From Long Island

are 17 Homes, all top-notchers in 1938 Home Values, including an air conditioned Montford Hills Home with a host of modern items unheard of in 1926. . . . Three 6-room Colonials at Hewlett Point. . . . Three Little but Livable 4 and 5-room Cottages at St. Albans. . . . A popular Hillside Heights home which can be carried at about \$30 per month. . . . A White Brick Bungalow at Westbury. . . . A compact English 25x25' with alternate design. . . . A 4-room Bungalow with Dining Bay. . . . A 28'x28' 4-bedroom Colonial. . . . 6-room Cape Cod with kitchen in front. . . . Two of Mott Brothers' 33% Greater Value than in 1926 Prescott and Dorset Homes.

### From Westchester County

we get a concrete masonry house of delightful French style at

Chappequa. . . . A Mayfair Acres Colonial near White Plains whose good proportions and careful detailing put it in a class by itself. . . . A Bronxville Cape Cod with a compact arrangement of 5 rooms and basement garage.

### The Philadelphia Area

contributes an interesting Devon Cottage, extraordinarily compact, and well laid out and equipped. . . . And a bunch of those Philadelphia Row Houses which are still being built—and still selling with success.

### From the Pittsburgh Area

we have three unique and thoroughly attractive Basementless "Utility" houses of the E. E. Olsen Construction Company, and a Pittsburgh "Home that Grows," dedicated to families of moderate income, constructed of new and modern materials and incorporating complete electrical facilities.

### From New England

there's an attractive low cost home without basement, so well insulated that it costs only \$5 per month to heat. . . . An unusual small house built on an angle providing good light and view. . . . A 6-room Norwalk Model Home, a well proportioned little Colonial. . . . A Connecticut Country House, whose garage with arched openings, shower and cupola with massive key atop it have been treated with special skill.

## Down in the Sunny South

### Among the Pines

at Orlando is a Florida home of superb rustic charm, with a rambling layout and plenty of cross ventilation.

### From Oklahoma City

we have, on pages 36 and 37, a Modernistic Manor, with an unusual flat-roofed 2nd floor deck.

### In Old Virginia

is a hospitable Richmond home built of old brick, with center hall entrance and huge fireplace popular in Southern Colonial homes.

### Striking Texas Home

with four beautiful illustrations is presented on pages 146 and 147, notable for its Modern Efficiency and Style and its large area of glass block to insure enough interior light on its tree-shaded lot.

### Modified Colonial in Memphis

"The Hardwood Model Home," built primarily to demonstrate the beauty, comfort and permanence of Southern Hardwoods for residential interiors, with especially attractive living room and dining alcove.

To get a copy of "American Builder Big-Value Homes" absolutely FREE with your American Builder subscription or renewal order, accompanied by \$2 for one year, \$3 for two years, or \$4 for three years,

(Continued from preceding page)

## Out in the Bustling West

### California

offers a Studio Type Cottage whose Bohemian mood is heightened by an outdoor fireplace and bewitching lounging terrace. . . . A Los Angeles frame stucco Modern Bungalow with 8 rooms, 2 tile baths, cozy den, full tile kitchen. . . . A 2-story California-Monterey style hillside home overlooking Silver Lake, with wide overhanging balconies on both sides and barbeque fireplace. . . . The "Windsor" home, with views and full description of living room furnishings and delightful breakfast room. . . . 4-color view of an exquisite outdoor living room at Palos Verdi, a quiet, restful corner such as would be enjoyed by any home owner.

### From the Northwest

is presented a Shingled Home, characteristic of Seattle's fine residences which make such effective use of the nationally known Northwestern Building Materials.

### Kansas

shows us a charming 9-room English Cottage Type Wichita Home "Designed for Entertaining," with an off-center fireplace and mantel. . . . Also pleasing Colonial Apartments at Augusta, taking advantage of all possible plan and construction economies.

### A St. Louis

Modern Home features a new type of heating system, generous areas of glass brick, indirect lighting system and other ultra modern appointments.

## From Up in the Progressive North

is assembled a glorious galaxy of examples of good exterior styling, practical planning and sound construction methods, exemplifying the extra value today's builders are putting into their homes.

### From Ohio

come a 7-room Dri-Built home in Ashland, with interior view and outline specifications. . . . A New Style House at Newark, with two views and two pages of plans and details. . . . A Cleveland Heights apartment owner shows what can be accomplished at surprisingly low cost by thorough modernizing.

### Detroit

contributes (1) A "Master Built" Plywood House, (2) a Model Home for low income group in Garden City "that Grows," the three steps illustrated and explained. . . . (3) A New Style Home with cinder block painted exterior proves extremely popular.

### Suburban Chicago

is rich in suggestions for getting more house for the money in such masterpieces in design and charm as: A Modern Efficiency Home in Scarsdale. . . . The startling evolution from "Shirt Front" Bungalows to Distinctive Homes achieved in the Ivanhoe section. . . . Perfecting a Home Plan in year-to-year improvements to meet trends in home buying. . . . A Modern Design "Beyond Comparison" in Edgebrook, showing how planning technique and improved materials have created new standards of home comfort. . . . Apartment Cottage at Berwyn, ideal for young couple or two elderly people. . . . Three attractive Period Styled Homes in John C. Lindop's Broadview Development. . . . Glen Ellyn Cape Cod, with good plan and fine detailing. . . . Six rooms, attached garage, no basement, at Kenilworth. . . . Prospect Heights Country Homestead with City Conveniences. . . . Five exterior style variations of Harmon's "Chatham" Plan at Colonial Village. . . . Colonial with 2-story portico at Elmhurst. . . . Cubist Creation at Glen Ellyn. . . . Modern Two-Flat Building presenting a definite feeling of spaciousness not always found in older buildings of this kind. . . . Homes on the North Shore demonstrating how Group Home Planning cuts costs and increases home values. . . . First group of Row Houses built in Chicago in 50 years. . . . Attractive Georgian Home at Wilmette, on wooded site, with clean-cut modern style.

# Use This Form

AMERICAN BUILDER, New.....  
30 Church Street, Renewal.....  
New York.

For the enclosed \$..... enter  
my subscription for 1 year, \$2.....

2 years, \$3..... 3 years, \$4.....

**And Include AT NO EXTRA COST  
a copy of "AMERICAN BUILDER  
BIG-VALUE HOMES."**

Name .....

Street .....

City .....

State .....

Occupation .....

6-38

*This offer good only in United States,  
Possessions and Canada*

## THE SIX BIG SECTIONS

1. Value in Today's Homes
2. Big-Value Small Houses
3. Low Cost Homes that Pay their Way
4. Larger Homes with Added Value
5. Moderne Homes for Economy
6. Savings in Group Home Building and Apartment Houses

## EXTRA FEATURES

- "Characterful Interiors Invite Admiration"
- "Good News for Today's Home Builders"
- "Ten Favorable Factors in Holding Down Home Costs"
- "Why Present Financing Costs Allow Increased Home Values Today"
- "FHA Amended Rules Help Toward Low Cost Homes"
- "Pictograph Analysis Shows Impressive Increase in Home Values"
- "Scientific Methods Reduce Home Costs"
- "A Camera Study of the Methods of One of the Nation's Most Successful Builders"
- "How to Build to Save Fuel"
- "Common Sense in Kitchen Planning"
- "50% More Outlets in 1938 Homes"
- "How to Build Double Bunks and Modern Coal Bins"
- "Homes or Stocks—Which Is the Wiser Investment?"
- Two Basement Transformations that are "No Less than Amazing"
- Detailed Specifications for a number of Outstanding Homes

# EDWARDS LOXSEAM STEEL ROOFING

Makes MONEY for YOU

and

Saves it for your  
CUSTOMERS



Install LOXSEAM on your next job and end your customer's roof troubles and expenses. It will outlast 2 or 3 ordinary roofs and protect the building from every destructive element in the weather man's box of tricks. Resists fire and lightning

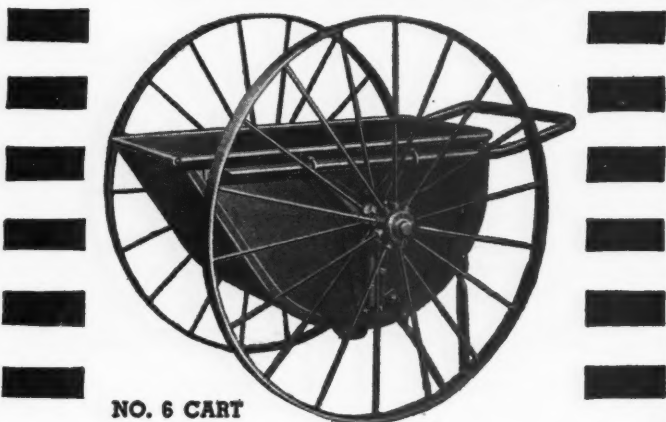
and clings tightest when the wind blows hardest. You will make more profit and be a LOXSEAM booster as long as you remain in business.

*Write today for demonstration,  
samples, prices and Catalog No. 92*

**THE EDWARDS MANUFACTURING COMPANY**  
542-562 Eggleston Avenue Cincinnati, Ohio

## Sterling CONCRETE CARTS

PLAIN OR ROLLER BEARINGS



NO. 6 CART

**THIS IS THE STRONGEST CART MADE**

Tray is 12 Gauge — 6 Cubic Feet Capacity. Wheels 42 Inches Diameter. Flat or Oval Tires, with Plain or Roller Bearings. Trunnion Axles.

**EASILY WHEELED • EASILY DUMPED**

**STERLING WHEELBARROW CO.**  
MILWAUKEE, WISCONSIN

## LETTERS from Readers on All Subjects

Facts, opinions and advice  
welcomed here

### Help in Selecting New Materials

Grand Rapids, Mich.

To the Editor:

I want to take this opportunity to thank you for your service of securing catalogs from the different manufacturers, as it is helping me to gather new information for my files which are inadequate for present house construction.

I am making plans for several houses which I hope to build under the new FHA setup, and the catalogs I have already received are a great help in selecting new materials.

EDWARD J. ESCH, Contractor and Builder.

### How Modernize Old Sideboard?

Minneapolis, Minn.

To the Editor:

I have been enjoying your magazine for many years. I was hoping I would see some writing or drawing showing what to do with some of the fine sideboards in homes, that were so popular and useful. I removed one in a large home O. K. and we did not miss it. Now, I have one in a five-room bungalow. It's oak, fine looking, and is needed. The bungalow is for sale and is now modern except for this sideboard. I wish suggestions. I thought some of taking out leaded glass and replacing with panels of oak or oak photo metal (don't know name) and also remove mirror and do likewise. It would still be a sideboard; or try and remove doors and mirror and have open shelves.

I do not wish to go to much expense, yet to remove sideboard that holds so many needs for a dining room when there is so little space elsewhere seems foolish. That is why I am looking for suggestions.

DR. FRANK J. KUEHN, Dentist.

### "Best on the News Stands"

Richardson, Texas.

To the Editor:

We enjoy reading your magazine, and think it the best building magazine on the news stands today.

ABE M. CAIN, Builder.

### Prominent Newspaper Boosts "More House for Money" Campaign

Billings, Montana.

To the Editor:

Under separate cover we send you our Better Homes Edition published May 1. On Page 7 of the issue is a story carrying a by-line giving you and your organization credit for the item.

I am sure that you will be interested to know that new home building in Billings, Montana, continues with a pace that promises to equal the new home building record of either of the past two or three years. This is evidenced in the cooperation we have received from advertisers whose announcements you will note as you turn the pages of the Better Homes Edition.

Please accept our thanks for your many courtesies in helping to supply us with news matter for use in publishing our various home building editions.

THE BILLINGS GAZETTE,  
Fred W. Pierce, Advertising Manager.

### Indexed and Often Referred To

Cloquet, Minn.

To the Editor:

Have been taking the *Builder* for seventeen years and have all the helpful hints indexed and refer to them often for ideas.

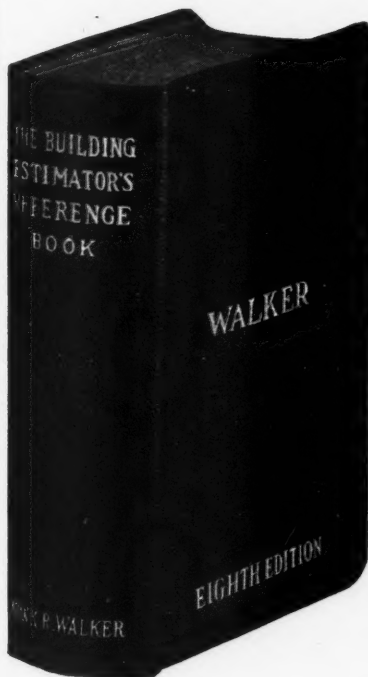
E. A. KUITU, E. A. Kuitu Sash & Door Co.

(Continued to page 106)

NOW READY

The New Eighth Edition of

## The Building Estimator's Reference Book



1700 pages

600 illustrations

600 tables

800 worked out problems

Complete Index

4 1/2 x 6 1/2 inches

Flexible binding

All the new estimating and cost data on the new building materials and methods that have been developed during the past 6 years are compiled in Walker's Eighth Edition. This is the information that every contractor needs to keep abreast of modern times and compete for present day contracts.

**Free With an Order**

### THE NEW REVISED VEST POCKET ESTIMATOR

This little book fits the vest pocket and contains 220 pages of up-to-date estimating and cost data in tabular form for ready reference.

**Order This New Book Today**

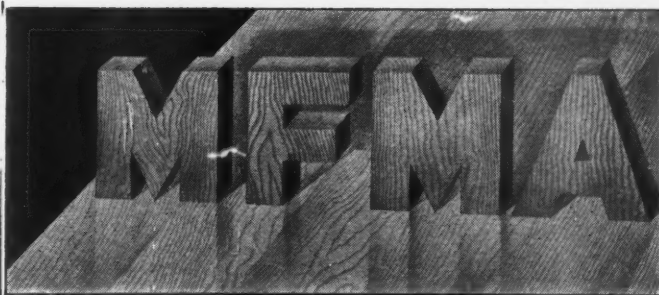
AMERICAN BUILDER AND BUILDING AGE  
30 CHURCH STREET, NEW YORK, N.Y.

Enclosed find \$10 for which send me a copy of the New Eighth Edition of The Building Estimator's Reference Book, including a copy of The Vest Pocket Estimator Free. If I do not find the books entirely satisfactory I will return them within 5 days after receipt and you will refund my \$10.

Name

Address

City and State  A.B. 6-38



### FIRST CHOICE FOR BETTER HOMES

With increased building of better homes, demand for Maple Floors is greater, and logically so. Besides durability, perfect smoothness, and sanitation, Maple now offers *outstanding beauty* when treated with the new finishes available—natural or color. Attractive patterns—in strip, block, herringbone, or combinations—also contribute to Maple's individuality.

The trademark **MFMA** on Maple Flooring guarantees it to be *all Northern Hard Maple* of the grade stamped thereon. It is your protection against substitution on every job. By specifying **MFMA** Maple, you insure floors of maximum uniformity, quality, and service that will maintain your reputation for quality work.

See our catalog data in Sweet's, Sec. 11/76.

Write for folder describing good service finishes for old or new Hard Maple floors.

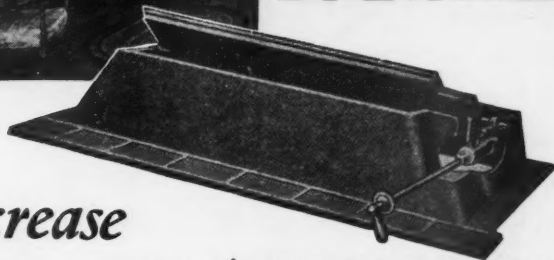
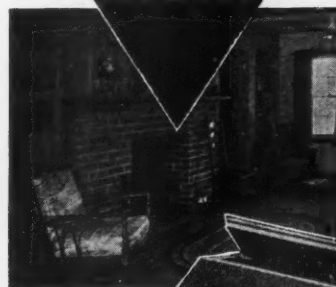
MAPLE FLOORING MANUFACTURERS ASSOCIATION  
1781 McCormick Building, Chicago

## Floor with Maple

THE LONGEST-WEARING COMFORTABLE FLOOR

**BUILD IT  
RIGHT**

**USE THE  
PEERLESS  
DOME  
DAMPER**



*Increase*

### HEATING AND AIR CONDITIONING EFFICIENCY

whenever you build a natural coal or wood-burning fireplace install a **PEERLESS** Dome Damper. It will cut your construction costs—assure perfect operation of the fireplace and increase the efficiency of the heating and air conditioning unit installed. Peerless Dome Dampers give complete satisfaction. They seal the chimney flue when the fireplace is not in use. No heat loss—No back drafts. Built for a lifetime of service. All standard sizes. Three models to choose from. Rotary Control—Poker Control—Chain Control.

#### OTHER PEERLESS PRODUCTS

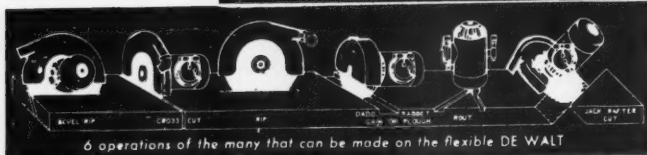
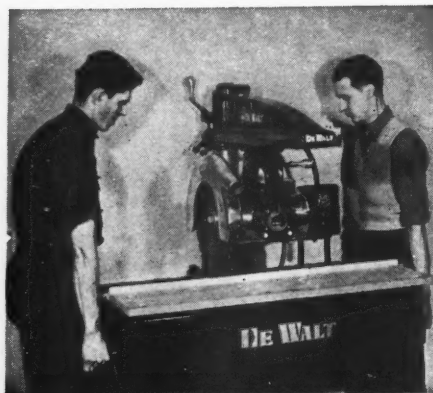
Fireplace fixtures—ash dumps—coal windows—ash pit doors—garbage receivers—radiant gas heaters—Gas Conversion Burners and Stokers.

Details and prices on request.

**PEERLESS MANUFACTURING CORP.**  
1400 W. Ormsby Ave. Louisville, Ky.

# SAVED ME \$550.00

Wm. A. Worral, Contractor, writes—My first job on which I used the DeWalt was building 5 houses. Just a year before I built 5 identical houses, cutting all material by hand. I kept accurate cost records on both jobs and my records disclose a "Saving of \$550.00." Any wonder I am enthusiastic—paid for its cost on my first job.



**EASY TO OWN**—Here is a popular priced model you can buy on Easy Payment terms. It has all the flexibility and accuracy of heavier DeWalts. Ideal because easily portable right to the job. Quickly financed through the savings affected.

America's leading builders save 20 to 30%. Let us show you how right on your job—no obligation. Write today.

**DE WALT**  
315 FOUNTAIN AVE.  
LANCASTER, PENNA.



## KEEP THESE FELLOWS OUT with MASTER METAL WEATHERSTRIPS!

The necessity for good weatherstripping in homes, old and new, is now generally conceded. Reputable weatherstrip contractors everywhere are featuring MASTER Equipments because of their permanent efficiency. Although guaranteed to endure for the life of the building, their cost is no more than others.

Dealers: Many territories still available for reliable agents. Write for agency plan.

**MASTER METAL STRIP SERVICE**  
1720 NORTH KILBOURN AVE., CHICAGO, ILL.

WRITE TODAY FOR ILLUSTRATED CATALOG & PRICE LIST

## LETTERS DEPT.

(Continued from page 104)

### Home Building in Oregon

Cottage Grove, Oregon.

To the Editor:

Please find enclosed \$2.00 for the renewal of my subscription to *American Builder and Building Age* for one year.

Just can't get along without it. I enjoy reading the letters from subscribers, even though some of them are rather hot stuff; but it takes many kinds of people to keep the wheels going. I think your stand for better buildings and prices are honest and fair.

I tried to compile a building survey here for the calendar year 1937; the total amount expended in this district was well over \$100,000.00, which includes both materials and labor.

Everyone is looking forward to a great building boom of new construction this summer with the FHA help.

We have a serious shortage of residence structures and there are quite a number of prospects at this time and more will be in as the good building weather advances.

HENRY M. LAKE, Designing & Drafting.

### Uses the Small House Plans

Riverside, California.

To the Editor:

We are especially appreciative of the small house plans contained in each copy of the magazine. They are very helpful, and we certainly make good use of them.

HAYWARD LUMBER & INVESTMENT CO.

### "Best for Average Builder"

Richmond, Va.

To the Editor:

This magazine is far the best suited to the building situation as applied to the average builder. I do not want to miss a single copy.

A. F. PERRIN, General Contractor.

### Questions from Egypt

Le Caire (Cairo), Egypt.

To the Editor:

I am a subscriber to your publication "*American Builder*" from two years I receive it from a Bookshop in Cairo. Next year I will send you my subscription directly.

"*American Builder*" is very interesting.

I am writing you to have some information about the insulating products described below.

It would be very interesting to me to see this question (of the insulation) discussed by readers of your Magazine. Please publish it in your paper as letter from reader with my name and address so that I can receive direct information.

I will be glad to know the address of the Jointless Flooring (Oxychloride) Association of U. S. A. and the Titles of Books and Publications you know referring to Jointless flooring or magnesite flooring or composition flooring (Sorel magnesite cement).

In 1933 a Person registered in Egypt as his invention an insulating product for roofs named *ISOLIEGE*.

It consists of 6 parts Granulated cork (2-3m/m)  
1 part Magnesite cement  
and magnesium chloride 18° baumé.

This plastic material is laid on concrete roofs 1-3 cms thick in the same way as Jointless Flooring, then it is covered with sand and tiles like all terrasses.

Object: the roof insulating against heat by jointless coat of agglomerated cork.

In 1936 another Person used a similar insulating product named *ISOLE*.

It consists of: 5 parts Granulated Cork  
½ part Asbestos fibres  
1 part magnesite cement  
and magnesium chloride 18° baumé

laid jointless on concrete roofs for insulation.

N. B. In Egypt there is no Patent Office. Every one can register any product even it is a discovery or not.

A Lawsuit arise between them.

(Continued to page 108)



**"PERFECTION"**  
Brand  
**OAK FLOORS**

are Her Pride and Joy

Here are floors every woman loves—beautiful, enduring floors of choicest oak, further enhanced by "PERFECTION" craftsmanship and "NOFMA" certified for grade.

Available through local distributors everywhere.

In PLANK, PARQUET or  
STANDARD STRIP

**ARKANSAS OAK FLOORING CO.**  
PINE BLUFF, ARKANSAS

Write today for your free copy of "How to Lay and Finish PERFECTION Brand Oak Floors."



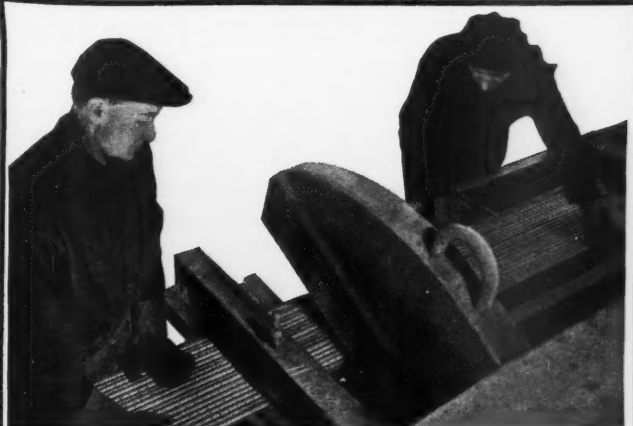
**KWIK-MIX**

**MODERN 3½-S MASCOT**  
**LESS WEIGHT — END DISCHARGE**  
**COMPACT — AIR-COOLED ENGINE**  
**FASTER WHEEL BARROW LOADING**  
**ANTI-FRICTION BEARINGS**



**WRITE FOR  
BULLETIN TODAY!**

**KWIK-MIX CONCRETE MIXER CO.**  
PORT WASHINGTON . . . WISCONSIN



**CONCRETE REINFORCING AND OTHER  
STEEL BUILDING PRODUCTS**

Everything the contractor needs, from Reinforcing Bars to Stainless Steel—Foundation Bolts to Structurals, is carried in conveniently located Ryerson stocks. Experienced crews—complete equipment and special dispatching methods assure accurate cutting or forming to specifications and delivery according to schedules. When you need steel, order direct from Ryerson. No order is too small for personal attention or too large for Immediate Shipment.

Joseph T. Ryerson & Son, Inc., Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

**RYERSON**  
*Certified*  
**STEELS**



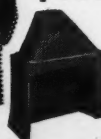
**It's Easier to Build,**



**and the Heatilator Fireplace  
gives more owner satisfaction**

Any way you look at it, the Heatilator Fireplace is a better fireplace for every job. It saves labor and materials. It is an extra selling feature for the house. And thousands of Heatilator owners will tell you that their Heatilator Fireplace gives more satisfactory service—actually cuts fuel costs—because it warms every corner of the room and even adjoining rooms. Owners, architects and builders recommend it. Write today for complete detailed information.

SELL IT FOR  
CAMPS, HOMES  
RECREATION ROOMS  
IT CIRCULATES HEAT  
WILL NOT SMOKE



**HEATILATOR  
COMPANY**

556 E. Brighton Ave.  
Syracuse, N. Y.

**Heatilator Fireplace**

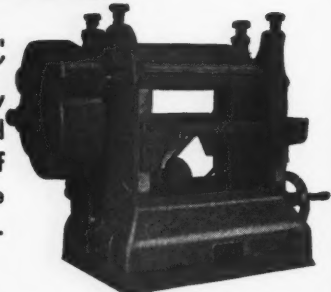
## A COMPLETE LINE

Parks manufactures every type of wood-working machine, both individual and combination. Equipped with every modern improvement and sturdily built for long years of service.



**MODEL "A"  
PLANING MILL  
SPECIAL**

Rip and cross-cut saw,  
22" band saw, 12"  
jointer, tenoner, hollow  
chisel, mortiser and  
borer, swing cut off  
saw, reversible spindle  
shaper and sand disc.



**12" BENCH PLANER**

Planes material up to 12" wide  
x 4" thick. Maximum cut 1/8".  
Takes pieces as short as 6"  
and as thin as 1/16". Bearings  
high-grade New Depart-  
ure ball bearings. Chip break-  
er and pressure bar completely  
guard the head and feed rolls.  
Power: 1/2 to 2 H.P. Weight  
300 lbs.



Good Woodworking Machines Since 1887

**THE PARKS WOODWORKING MACHINE CO.**  
Dept. BL-6 1524 Knowlton Street Cincinnati, Ohio

## GIVE MRS. HOUSEWIFE EVERYTHING SHE'D LIKE IN HER KITCHEN -



### IT'S EASY TO DO WITH KITCHEN MAID CABINETRY

Modern women demand the very best in kitchens ... outstanding design, harmonizing beauty, unusual convenience and efficiency. That is why so many more architects and builders specify and buy Kitchen Maid Cabinetry. They know it will give Mrs. Housewife everything she wants and needs. Write for new catalog and details. Free Planning Department available.



The Kitchen Maid Corp., 806 Snowden Street, Andrews, Indiana.  
Send new catalog and details on standard unit Kitchen Cabinetry.

Name \_\_\_\_\_

Address \_\_\_\_\_

☐ Architect  
☐ Builder

☐ Dealer  
☐ Owner



## LETTERS DEPT.

(Continued from page 106)

The first one said that his ISOLIEGE is an invention.

The second one said: "His ISOLE is different from ISOLIEGE and both products are the same material used from many years by the Jointless Flooring Companies.

"ISOLE is the under layer of jointless flooring which contains granulated cork and is often used alone as a bed for application of Linoleum. It is a corklayer or Korkestrich (in German).

"The new application (over roofs) of this already known material cannot be patented."

EMILE RIRSCH, 5, Rue Gameh Charkass.

\*\*\*

## How Much is "High Cost" Propaganda Costing You?

(Continued from page 43)

campaign using the new advertisements presented herewith. Newspapers and building groups in numerous other cities are already at work on this plan.

*American Builder* believes—and its belief is supported by the best sales promotion minds in the country—that what the building industry needs today is a complete change in the psychology of the public as regards home values. Just as department stores, furniture stores and even second-hand automobile dealers have done, the building industry must create a "bargain value" psychology. Through united local effort building men must first refute unfair high-cost propaganda and then aggressively set out to present the *high value of the product they sell*. Belief in home ownership and in its worthwhileness can thus be restored. This is a job no single group or individual can do: it calls for the united support of all local building industry men.

*American Builder* considers the work done by The Producers' Council, its officers and members, to make the material for this program available in every community in the land one of the most constructive and worthwhile efforts ever attempted.

The 42 prominent manufacturers and associations that make up The Producers' Council cover all phases of building, including lumber, millwork, cement, plumbing, heating, electrical, building materials and equipment of all kinds, so that their local dealers and representatives have offices in practically every town. If this advertising material is not immediately available in your town, it can be obtained by writing direct to **AMERICAN BUILDER** at 105 West Adams St., Chicago; or 30 Church St., New York; or direct to The Producers' Council, Inc., 122 East 42nd St., New York. In addition, The Producers' Council Clubs in 22 cities will be active in this campaign. A list of these clubs with the local presidents is as follows:

BOSTON—E. J. Cunningham, Johns-Manville, 49 Federal St.

CHICAGO—J. W. Moorhead, Aluminum Co. of America, 520 N. Michigan Ave.

CINCINNATI—H. K. Ireland, Armstrong Cork Prod. Co., 232 W. Seventh St.

CLEVELAND—Walter L. Hunt, Otis Elevator Co., 1375 E. Sixth St.

INDIANAPOLIS—P. G. King, Pittsburgh Plate Glass Co., 59 S. State Ave.

SAN FRANCISCO—William Woodbridge, Columbia Steel Co., Russ Bldg.

NEW YORK—W. L. Keplinger, Jr., Johns-Manville, 22 E. 40th St.

PHILADELPHIA—Howard McNeill, Johns-Manville, Broad St. Sta. Bldg.

PITTSBURGH—H. F. Johnson, Aluminum Co. of America, Gulf Bldg.

LOS ANGELES—J. F. Gehring, Libbey-Owens-Ford Glass Co., 816 W. Fifth St.

ST. LOUIS—R. P. Benjamin, National Lead Co., 722 Chestnut St.

WASHINGTON, D.C.—C. W. Seeley, American Brass Co., 1511 K. St., N.W.

MILWAUKEE—G. E. Ryan, Kohler Co., 751 N. Jefferson St.

DETROIT—Frank P. O'Neil, Kohler Co., 3094 E. Grand Blvd.

BALTIMORE—Charles L. Lea, Chamberlin Metal Weather Strip Co., 2315 Cecil Ave.

DALLAS—J. L. Zeeryp, Otis Elevator Co., 1822 Young St.

DENVER—F. E. Sullaway, Jr., Armstrong Cork Prod. Co., 511 Interstate Trust Bldg.

SEATTLE—Harold J. Baum, Crane Company, 419 Second Ave., S.

ATLANTA—R. S. Hammond, Dist. Mgr., Johns-Manville, 101 Marietta St.

BIRMINGHAM—Frank Hollis, Crane Company, 2 S. 20th St.

BUFFALO—B. Cobb, Johns-Manville, 220 Delaware Ave.

COLUMBUS—R. A. Diedrich, Crane Company, 67 N. Front St.

DES MOINES—Harold F. Smith, Armstrong Cork Prod. Co., 225 Fifth St.

HOUSTON—E. M. Wise, General Electric Co., 1312 Live Oak St.

KANSAS CITY—F. E. Dugan, Pittsburgh Plate Glass Co.

LOUISVILLE—R. H. Craig, Armstrong Cork Prod. Co., 1420 Heyburn Bldg.

MINNEAPOLIS—Elmer A. Ely, Johns-Manville, 732 Baker Bldg.

PORTLAND—B. H. Arbing, Otis Elevator Co., 230 N.W. Tenth Ave.

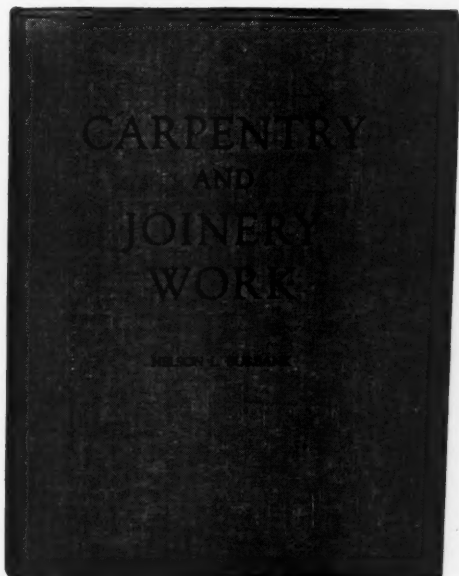
NEW ORLEANS—Jno. M. Taylor, Johns-Manville, 804 American Bank Bldg.

Second Edition

# CARPENTRY and JOINERY WORK

By Nelson L. Burbank

Formerly Instructor, Building Vocational High School, Cincinnati, Ohio



The new edition has been thoroughly revised.

The manuscript was carefully checked by a former contractor and ex-editor so that this book combines the practical outlook with the author's trade teaching experience. The cardinal principles of modern residential construction are set forth simply and logically with the aid of many photographs and line drawings. The Second Edition contains 90 revised pages with new illustrations and descriptions of new methods and materials.

The program of study as presented in this latest textbook for students of carpentry work involves class discussion, practical job work and related studies. These include Architectural Drawing, Plan Reading, Carpentry Mathematics, Business English, Applied Science, Civics and First Aid.

This book will be very useful to any man entering the home building field. Contractors can safely recommend it to apprentices and rough carpenters who wish to improve their knowledge of the work. The complete index makes it useful as a general reference book.

## Chapter Headings

Tools and Equipment—Tool Boxes—House Plans—Excavations—Foundation Forms—Foundations—Sills—Girders—Floor Joists—Sub-Flooring—Outside Framed Walls—Inside Framed Walls—Plumbing Framed Work—Sheathing Walls—Ceiling Joists—Roof Framing—Roof Sheathing—Cornices—Roofing—Porch and Bay Framing—Exterior Wall Covering—Interior Wall Covering—Stairs—Interior Trim—Windows—Doors—Hardware—Closets and Shelving—Finish Flooring—Finishing—Index.

280 pages, illustrated, 8½ x 11 inches. Cloth Bound, \$3.00.

## 369 Practical Job Pointers

A collection of many of the best "Job Kinks" which have been published in American Builder and Building Age. Each of these helpful time, labor and money-saving methods is illustrated with a line drawing. There are 76 pages of ingenious methods of doing work, 66 pages describing special tools and devices, and 54 pages of construction details and recommended methods. All are based upon actual experience. An index enables quick reference to a particular job hint and the book is pocket-size for carrying on the job.

192 pages, 275 illustrations, 4½ x 8½, paper binding, \$.75.

*Money Back if Not Satisfied*

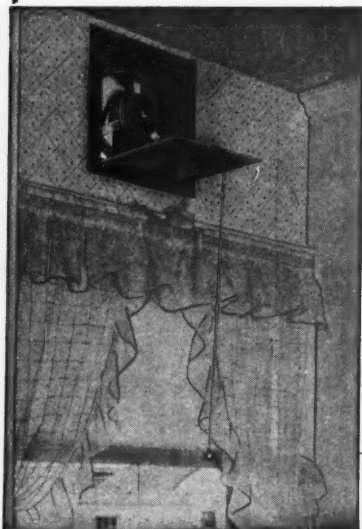
**BOOK DEPARTMENT**

**AMERICAN BUILDER AND BUILDING AGE**

**30 Church Street**

**New York, N. Y.**

## The **BUSIEST BUILDERS**



### *Don't Skimp on Conveniences*

● They know they are busy because they build the kind of homes modern families want. That's why so many of them have standardized on

**"Buffalo"**

## Kitchen Ventilating **FANS**

These quiet, easy-to-operate fans draw off cooking odors and help to keep the kitchen as clean and cool as the rest of the home. 8" and 12" sizes. Furnished complete with wall boxes ready to install. See your dealer or write us for literature and prices.

### **BUFFALO FORGE COMPANY**

145 Mortimer St., Buffalo, N. Y.  
Branch Engineering Offices in Principal Cities  
In Canada: Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

## **BIG MONEY SPRAYING NEW COLORED STUCCO**

THIS NEW MACHINE AND PROCESS fuses a waterproofed, plastic mixture on any masonry, old or new. It fills all cracks and can be applied in any thickness desired and in 30 beautiful colors and shades. Its permanence has been fully proven by over twelve years actual use under all conditions and every climate.

**PROGRESSIVE BUILDERS ARE STRIVING** for greater permanence, beauty and salability in their new construction at lower cost. Owners everywhere want to enhance present values and make their buildings more attractive and livable.

**WITH COLORCRETE STUCCO SPRAYING** you can supply both of these waiting markets and can offer permanent, colorful surfacing at amazingly low cost. Operators report costs of 2c and up per square foot and sell up to 7c. Some have paid for their equipment from first couple of jobs. Machine capacity up to 600 sq. ft. per hour.

**GET THE FACTS.** Write today for new COLORCRETE Books. They tell the whole story which may mean business independence for you.

### **COLORCRETE INDUSTRIES, INC.**

509 Ottawa Ave.

Holland, Mich.



## Building the "World of Tomorrow"

(Continued from page 45)

necessary to build many of the buildings on complicated floating foundations.

Dominating the entire Fair and, in a sense, setting the keynote of its architectural style is the "Theme Center," consisting of a white sphere 200 feet in diameter, poised apparently in mid-air over a cluster of fountains and flanked by a slender triangular tower 700 feet high.

### The Theme Building

Use of the simple sphere and triangle as the basic design for the Theme structure symbolizes the architecture of the Fair. Fair technicians had to coin new words to describe the buildings. To describe the triangle they first tried "acute triangular pyramid." Another suggestion was "tall tetrahedron." Finally, they coined a new word, "trylon," a combination of "tri," referring to its three sides, and "pylon," indicating its use as a monumental gateway. The sphere is described as a "perisphere." The two structures with their accompanying ramps and escalators will cost \$1,200,000.

Both Theme structures are of articulated steel frame construction. The Trylon, towering 700 feet (145 feet higher than the Washington Monument), will be visible throughout the Fair and enable visitors to get their directions immediately. From it will be broadcast announcements.

Construction of the Perisphere is an interesting and intricate task. It is supported on eight columns spaced around a circle 81 feet in diameter. From an engineering viewpoint the construction of such a sphere makes possible perfect balancing of strains and stresses so that it would be possible to build the entire ball of half-inch steel plates with bracing only at top and bottom. Cost of scaffold of this method of construction, however, led to the decision to use an articulated steel frame.

The Perisphere will be reached by escalators, one of which is 120 feet long, said to be the longest ever built. A huge circular platform will carry visitors around the inside of the sphere, which will be air conditioned and acoustically treated to prevent sound reverberation.

### Construction and Landscaping Well Advanced

Preparation of the marshy site of the Fair involved an enormous volume of excavation and handling of dirt. It is estimated by Fair engineers that more than 7,000,000 cubic yards of material were moved. To provide a proper landscaped setting, thousands of trees purchased in five states, some up to 55 feet in height, have been set out. More than 1,500,000 shrubs, evergreens and plantings of various types have already been set out. At the time of the formal "Preview" of the Fair, April 30 this year, a large part of the central area had already been completely landscaped and visitors at the Preview were greeted by huge flower beds, green lawns and leafy trees.

Attendance crowds at the 150-million dollar Fair are expected to break all previous records. Fifty million visitors are expected during 1939, with an average daily attendance of 250,000 persons, running up to 800,000 on peak days.

### Andrews in Charge of Construction

Construction is under the supervision of W. Earle Andrews, general manager of the Fair, and John P. Hogan, chief engineer. The Architectural Board of Design is composed of: Stephen F. Voorhees, chairman; Robert D. Kohn; Walter Dorwin Teague; Robert H. Shreve; William A. Delano; Filmore D. Clarke and Jay Downer.

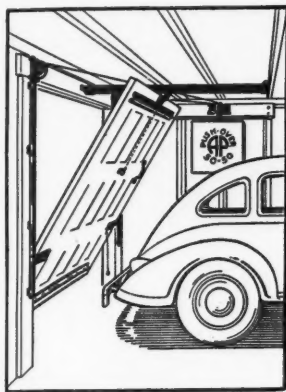
All contracts let by the Fair are on a competitive basis, and all firms engaged in construction work are required to pre-qualify before their bids are considered. Forms for pre-qualification have been prepared. Preliminary financing is being done through the sale of some \$28,000,000 in debenture bonds to New York business men and residents. Plots for exhibitors' buildings are sold at 20 cents a square foot. The cost of space in exhibit buildings erected by the Fair Corporation is \$14 a square foot.

For NEW doors or OLD . . .

# ALLITH

## 50-50

### "PUSHOVER"



Over-head garage door hardware that suits every demand.

You can install it quickly and easily, and be sure that it will please the customer. Opens and closes with a touch . . . simple, sturdy design that means unflinching service for many years.

"50-50" is the popular, fast-selling favorite of the ALLITH line. Write for prices and details of this and other door hardware for every type of installation.

ALLITH-PROUTY, Inc., Danville, Illinois

## Don't plan homes with DEAD END CELLARS



Specify  
**BILCO**  
COPPER STEEL  
CELLAR  
BULKHEADS

**T**HINK how easy to move large furniture in or out of a basement with an exit like this. A really convenient, safe cellar has a Bilco all-metal bulkhead. Shipped knocked-down complete for quick installation, to replace old wood hatchway, or on new homes designed for a modern, outside basement entrance. Three standard sizes and to order. Last virtually forever. Burglar-proof. Moderate in price. See Sweet's or write for complete data. If dealer can't supply order direct.

Agents: Write for territory.

**BILCO MFG. CO.** 165 Hallock Ave. NEW HAVEN, CONN.  
Sidewalk Doors - Cellar Bulkheads



**INSTALL FINISHED FLOORS**

## MAKE EXTRA PROFITS



The moment after Wright floors are laid they're ready to walk on. No extra labor expense for finishing "touches." And that means extra profits. An exclusive process puts this high-grade rubber tile flooring on price level of good grade linoleum.

Owners like its rare beauty, comfort, durability and easy cleaning qualities. One job sells another. See Sweet's or write for complete data.

**WRIGHT RUBBER PRODUCTS CO.**  
1603 Layard Ave. Racine, Wisconsin

# WRIGHT RUBBER TILE

## Mall PORTABLE ELECTRIC HANDSAWS



**MALL Model 1A Electric Handsaw**

The Model 1A is just the tool you need for cutting joists, studding, sheathing, rafters, bridging, and trim. A fast, powerful, accurate saw that will help increase your profits on every contract.

Clip and mail the coupon for details on the Model 1A and other MALL Electric Handsaws!

**MALL TOOL COMPANY**  
7737 So. Chicago Avenue  
Chicago, Illinois

Other MALL tools are door mortisers, door planes, electric drills, concrete vibrators, and concrete surfacers. (6)

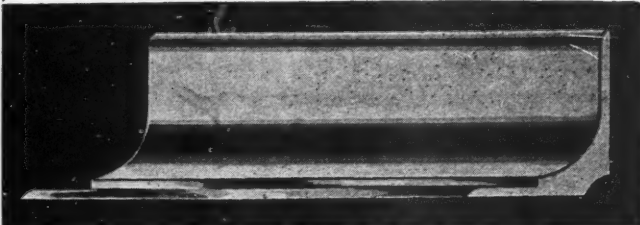
Without obligation, please send additional information on the Model 1A and other MALL Electric Handsaws.

Name .....

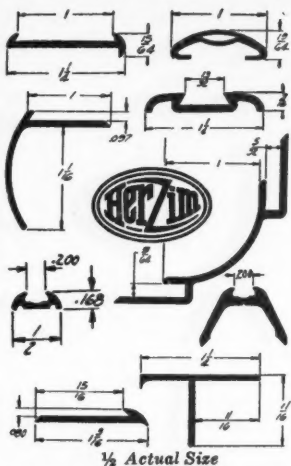
Address .....

City..... State.....

## America's Finest Line of



### Decorative Metal Mouldings



Hundreds of sections, designed exclusively for the builder. New styles, for use with gaily colored inserts of linoleum, beading and special HerZim Filler.

Special sections for applying all standard thicknesses of wallboard—in sets having inside and outside corners, dividers and caps.

**Write Today  
for Catalog**

It shows actual installation in homes, recreation rooms, bathrooms, kitchens, bars and hospitals, as well as hundreds of sections. Mailed on request to builders, building supply dealers and distributors.

**HERRON-ZIMMERS MOULDING CO.**

3900 E. Outer Drive

Detroit, Mich.

## EASIEST WAY TO HANG SCREENS



When specifications call for screen and storm sash, use Kees Gossett Hangers. They're the quickest, easiest way to hang screens and storm windows—thanks to the special flange that guides sash right into place. Easy to apply. Highest quality materials and workmanship. Decidedly inexpensive. Write for FREE Kees Builders Hardware Catalog.

**F. D. KEES MFG. CO.**

(Est. 1874)

Box 193, Beatrice, Nebraska

DISTRIBUTED THRU WHOLESALE  
HARDWARE TRADE



**MAKE EXTRA PROFITS ON**

**DENNIS**  
DOUBLE CUSHION

**BRONZE WEATHER STRIPS**

*Easily Installed Without  
Removing Sash or Doors!*

Now you can make quick, new profits by selling genuine Dennis Double Cushion Spring Bronze Weather Strips for modernizing jobs and new homes. The easiest to install—comes attached to new parting stop. Patented "S" fold gives double spring action. Prevents cold air leaks. Makes snug weatherproof seal conforming to all warping, shrinkage and expansion of sash and doors. Endorsed by architects and builders for saving fuel. Ask your jobber or write for illustrated Weather Strip Catalog and Samples.

**W. J. DENNIS & CO.**  
2110-20 WEST LAKE ST. CHICAGO

## Rental Housing Construction

(Continued from page 50)

door are discouraged, since cooking odors cannot be confined. Dining alcoves opening into living rooms are not open to this objection. Long halls, passing by kitchens, baths or bedrooms to reach living room are not desirable. Doors from living room directly into a bedroom should be avoided.

### Assembling The Units

After the various individual apartment units have been carefully planned and the arrangements perfected, it is possible to group them in various ways. Seven effective assembly plans recommended by FHA are shown in Figure 2. The strip unit presents the smallest problem. Other unit types tend to produce comparatively small courts, which cause lack of privacy. To avoid this, FHA recommends a judicious use of combinations of the different basic apartment units. Two cross-type units with an intervening strip unit, they point out, produce a better result than three cross types in a row.

In further articles in this series additional data on planning and construction procedure for rental housing will be given, including recommended kitchen, dining room and bathroom details, closets, halls and foyers, minimum room and specified requirements.

\* \* \*

## "Banner Year for Cottage Builders"

(Continued from page 60)

should lead from it to the kitchen as well as to the living room.

Unusual effects are achieved by the use of hand-adzed chestnut for both interior and exterior timbers and by other natural wood effects, such as log slabs set on furring over building paper as a roof material. A brief summary of the high value specifications of the cottages illustrated follows:

**LOG CABIN, PAGE 58**—Weyerhaeuser 4-Square lumber, Bosman & Casson millwork, Standard plumbing fixtures, J-M Flexboard, Vulcanite portland cement, McCune cinder block, Rome wire, 3-ply roofing paper, Chase copper, Lawco medicine cabinets, Unique sash balances, Cabot's stain and creosotes, built-in kitchen cabinets with linoleum counter-tops by Congoleum-Nairn. Studio living room is of solid log construction chinked with Kellistone chinking. Balance of house is of frame construction with half-log exterior. Interior is finished with knotty pine. Roof is built of log slabs set on furring over heavy Flintkote building paper. Interior door frames of solid chestnut timbers. Cubage 12,368.

**ALL-YEAR COTTAGE, BRICK FRONT, PAGE 59**—Weyerhaeuser 4-Square lumber, Thorn steel casements, warm air heating system, Cabot's stains and creosotes, J-M Flexboard interior. Exterior is of rough siding given grey creosote stain. Trim is white with blue shutters. Bath and kitchen walls finished in Flexboard with chrome moulding. Cubage 17,411.

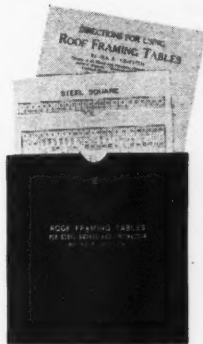
**WHITE COTTAGE WITH TRELLIS, PAGE 60**—Weyerhaeuser 4-Square lumber, Maltese Cross clear red-cedar siding, double-hung windows with Unique balances, interior walls knotty pine with exposed rafters of hand-adzed chestnut, Standard plumbing fixtures, Flintkote roofing. Cubage 10,070.

**STUCCO LAKE HOME, PAGE 61**—U.S. Gypsum Oriental exterior stucco, Flintkote roofing, Vulcanite portland cement, studio-type living room with picture window and large balcony, porch accessible from kitchen for dining, corner window in bedroom. Hand-adzed chestnut timbers and rough siding used on exterior. Cubage 16,574.

## ROOF FRAMING TABLES

For Steel Square and Protractor

By Ira S. Griffith



These tables provide in the most condensed form the necessary information for framing the various members of square cornered and octagonal roofs, both in degrees and by means of the steel square. The tables are read through slits in the celluloid cover and the tabular card is operated in a manner similar to using the slide rule. A booklet gives directions for using the tables and furnishes example problems for laying out the miter cut of a plate, and common, hip, valley and jack rafters, with either steel square or protractor. With these tables you can save the time necessary to figure layouts and cuts.

4 1/2 x 5 inches, with 8-page booklet, in leather slip case, \$1.00.

Money Back if Not Satisfactory

Book Department

American Builder and Building Age

30 Church Street, New York

## WAGNER TRACK AND HANGERS



A complete line for every purpose. No. 1500 series Roller Bearing Hangers operate in both No. 100 and No. 15 Track. One Hanger — two tracks. Simplifies installation. Assures satisfaction. Write for Wagner Track and Hanger literature.

WAGNER MFG. CO., Dept. AB-638, Cedar Falls, Iowa

### Better Builders

BUILD BETTER FLOORS WITH

#### HELYX FLOOR SCREW NAILS

DRIVES LIKE A NAIL—TURNS AND HOLDS LIKE A SCREW. A NEW ... AND BETTER WAY TO LAY HARDWOOD FLOORS —THINK OF IT.

NO SQUEAKS  
NO SPLIT TONGUES  
NO BENT NAIL WASTE

Then There's

HELYX "REGULAR" For Wood to Wood

HELYX "HEAVY DUTY" For Wood to Steel

HELYX CONCRETE SCREWS

FOR WOOD OR STEEL TO CONCRETE

NO DRILLING, NO PLUGGING

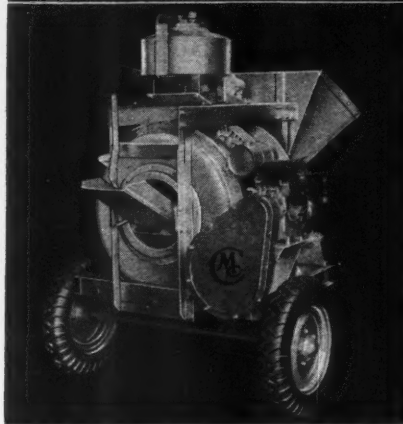
SAMPLES. DO IT THE "HELYX WAY"

THE HILLWOOD MFG. CO.  
21715 ST. CLAIR AVE. CLEVELAND, OHIO.

ANOTHER

## PROFIT MAKER

### LOOK!



Trim End Discharge design for easier handling and greater convenience.

Real roadability and maneuverability.

Balloon Pneumatic Tires—Timken Bearings—Cantilever Springs. Disappearing Tongue.

Biggest production with low front, high back gated batch hopper. Up to 40 yards a day.

CMC proved double quick mix and remix action. Beats all competition in design — performance — high production. And the PRICE will surprise you.

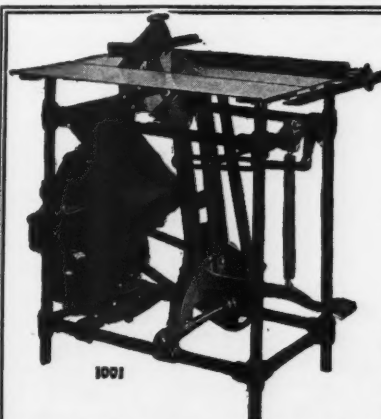
## The NEW C.M.C. 3 1/2 End Discharger

It hits the "spot" with contractors and builders everywhere. Big Mixer efficiency with small Mixer speed and handling ease. The price makes it today's best buy in the 3 1/2s Mixer field. Write.

Whatever you need in a Mixer, we've got it—also Dual Prime Pumps, Hoists, Saw Rigs, Pneumatic Tired Carts and Barrows.

CONSTRUCTION MACHINERY COMPANY

WATERLOO, IOWA



### This High Production PORTABLE TREADLE SAW

IS A REAL TIME AND MONEY SAVER.

Write for complete new catalogue of our woodworking and contractor's machinery.

AMERICAN SAW MILL MACHINERY CO.  
60 Main St., Hackettstown, N. J.

## KEEP ROOTS OUT OF SEWERS

with

forever!



### Root-Proof Sewers

#### GUARANTEED!!

Inexpensive ... installed in clay or concrete pipe without tools or special equipment. Joints are made in the regular way. Available in all sizes through Plumbers, Sewer Contractors, Building Supply Dealers, Plumbing Jobbers and Sewer Pipe Manufacturers.

U. S. PAT. No. 1,968,734

WRITE for free and complete data for your files. Sample Ring on request.

A-B-C MFG. CO., 211 S. 4th St., Quincy, Illinois

# SELECTED CATALOGS

**For the Service of Builders,  
Contractors, Architects, Dealers**

The publications listed below may be obtained without charge either by using the coupon, listing the numbers desired and mailing to American Builder, 105 West Adams Street, Chicago, or by applying on your business stationery to the manufacturers direct, in which case kindly mention this publication. Either the titles or the numbers may be used in ordering. This list is an editorial feature for convenience of our readers.

## BUILDING EQUIPMENT

**144—"Kimsul Expanding Blanket Insulation"**—A 20-page portfolio of new information on insulation problems, methods and efficiencies, with particular reference to Kimsul in the 1-inch, 2-inch and 3½-inch thicknesses. In addition to chapters treating the insulating of vertical walls, sloping roofs, ceilings, floors, etc., there is a very helpful discussion of the very practical matter of fuel savings.—KIMBERLY-CLARK CORP., Neenah, Wis.

**145—Gibbs Boardtile**—"Beauty and Permanency at Low Cost" is a very attractive folder giving color samples of Gibbs Boardtile and showing how it is used. Companion pieces feature Gibbs Boardtile for modernizing, both in the home and in commercial buildings.—GIBBS BOARDTILE CORP., 619 N. Curtis St., Chicago.

**146—Concrete Painting**—"Suggestions on the Painting and Care of Swimming Pools" is a new brochure containing much valuable information on the construction and maintenance of swimming pools, also giving valuable suggestions on keeping the pool beautiful, sanitary, free from algae, etc. Complete specifications are included for painting not only the pools themselves, but also the walks around the pools, locker rooms and shower rooms.—MEDUSA PRODUCTS CO., 1000 Midland Bldg., Cleveland, O.

**147—Tamms Floorstone**—A new 4-page data sheet tells about Floorstone and allied maintenance-construction specialties. Helpful information is given for the preparation of sub-floors before installing Floorstone; for instance, concrete floors old and new, old wood floors, metal decks, old mastic, precast gypsum tile, etc.—Flooring Division, TAMMS SILICA CO., 228 N. La Salle St., Chicago.

**148—Corbin Hardware**—"Salem" is a distinctive new hardware item—a door lock set of quiet dignity with curving, graceful lines. A new illustrated circular from—P. & F. CORBIN, New Britain, Conn.

**149—G-E Varnished-cambric Insulated Cable**—A new 32-page handbook presents a complete line of insulated cable, and discusses the types available and recommended for various kinds of application. How to determine proper cable size is part of the "service to users of insulated cable" included in this book.—GENERAL ELECTRIC CO., Schenectady, N.Y.

**150—Builders' Cast Iron**—"Catalog No. 37" is a new general catalog of the Indiana Foundry Co., featuring dome dampers, ash dumps, cast iron doors, coal chutes, basement windows, drain traps, gratings, manhole covers, etc. Items are so numerous that two pages are required for the index.—INDIANA FOUNDRY CO., Indiana, Pa.

**151—Blueprint Papers**—A new 12-page catalog presents the K & E Series Six-y blueprint papers—that special deep, rich blue paper. Price list is included on 50 yd. rolls of various widths, ranging from 24 to 54 inches.—KEUFFEL & ESSER CO., Hoboken, N.J.

**152—Decorative Mouldings of Metal**—The Herron-Zimmers catalog No. 12-C presents 16 pages of photographs and dimensioned cross section drawings of decorative metal mouldings for modern interior effects with wallboard, linoleum, plywood and other modern materials in panel form. Bead insert mouldings, snap-on mouldings, clip and bolt-on mouldings, cove mouldings, etc., are included. Photos illustrate examples of their use.—HERRON-ZIMMERS MOULDING CO., 3900 E. Outer Drive, Detroit, Mich.

**153—Reflect-O-Cell Insulation**—A valuable insulation data sheet, together with sample of Aluminum Aircell insulation, is

ready for distribution. How Reflect-O-Cell insulates is discussed, and working drawings show methods of installation.—ALUMINUM AIRCELL INSULATION CO., Curtis Bldg., Detroit, Mich.

**154—Anderson Cast Iron Sash Pulleys**—Catalog No. 1 on sash pulleys is a 20-page handbook full of pulley facts, illustrations and specifications. Pulleys illustrated range from 1½-inch diameter to 3-inch diameter. How to estimate weights of sash and round sash and square sash weight tables are valuable for reference.—ANDERSON FOUNDRY CO., Sash Pulley Div., Anderson Corp., Bayport, Minn.

**155—Stainless Steel for Everyman**—This is a 14-page booklet describing that amazing new stainless steel product, Ludlum, which has a wide variety of uses in the home building and construction field. Suggested uses in kitchens, bathrooms and for cabinet linings, back splash panels, sanitary wall coverings, table tops, flashing, drain boards, etc., are given. How to put the "Prince of Steels" to work in the new economical flexible form now available is told. Suggestions for cutting, handling and installing are included.—LUDLUM STEEL CO., Watervliet, N.Y.

## EQUIPMENT

**155A—Home Building Contest Data**—Builders interested in winning one of the G-E \$1,000 prizes for a well-planned and built home will find it in an 8-page folder, "G-E New American Home Building Contest," giving rules, regulations, purposes of the contest and suggestions for winning the prizes.—GENERAL ELECTRIC HOME BUREAU, 570 Lexington Av., New York City.

**156—Iron Fireman's De Luxe "Heatmaker"**—A new broadside folder in full color announces the Iron Fireman de luxe "Heatmaker" which this well known firm says gives "the soundest heating value ever offered." Its special advantages are set up under 12 definite headings.—IRON FIREMAN MFG. CO., Portland, Ore.

**157—Kolstad Built-In Mail Boxes**—8 pages of loose-leaf specification and design data on mail boxes and chutes built in for the home and apartment building are offered.—KOLSTAD MAIL BOX CO., Duluth, Minn.

**158—Clyde Hoisting Equipment**—Bulletin K-1 is a 12-page illustrated catalog on Clyde gasoline hoists, electric hoists and steam hoists, with space also devoted to Clyde steel derricks, both hand and power operated.—CLYDE IRON WORKS, Inc., Duluth, Minn.

American Builder,  
105 W. Adams St.,  
Chicago, Ill.

(June, 1938)

Please have the following Catalogs listed in this issue sent me—

Numbers .....

Name .....

Street .....

City .....

State .....

OCCUPATION\*

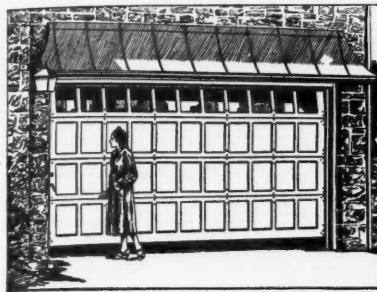
\*Please note that occupation must be stated if full service is to be given.

Here  
your  
space  
disapp  
and n  
old bu  
in use  
room  
the va  
storag  
Ask yo

Small  
Capit  
Minis  
To In

FOR  
Rieger

## Real Garage Door Satisfaction with KINNEAR Rol-TOP DOORS



They furnish the convenience every owner, renter or buyer wants—and demands! They open upward over swollen ground, obstructions, ice, snow, etc. Perfectly counter-balanced, they make the old fashioned tug-a-struggle garage door a thing of the past. Rol-Top doors are completely weather-tight and are free of service worries. Can be equipped for electrical operation. Made in any size of wood or steel. Easy to install. Ideal for either commercial or residential use.

Write for Details to

**THE KINNEAR MFG. CO.**  
1560-80 Fields Ave., Columbus, Ohio

MAKES soft wood...



FINISH like Hardwood

Quick drying

Economical

STOPS GRAIN RAISE

ON FIR PLYWOOD

Use REZ on fir plywood and soft woods and finish them "like hardwoods." No grain raise, beautiful, smooth surfaces that stay smooth with any kind of stain, paint, enamel. Prevents moisture absorption. Seals, primes, sash and doors against swelling, binding, weather and wear before and

after construction. Cuts finishing costs, gives a better job. Many other uses. Remember, there's nothing else like REZ, because nothing else stops grain raise like REZ. Buy through principal jobbers, dealers.

**I. F. LAUCKS, Inc.**  
Seattle, Wash. Lockport, N. Y.

For large jobs order fir plywood "Rezited-at-mill"

## QUALITYBILT DISAPPEARING STAIRWAY

Here is the modern way to get more for your building dollar. Eliminate waste attic space by installing this perfectly balanced disappearing stairway. It is strong, rigid and non-folding, easily installed in new or old buildings. Rests on attic floor when not in use; does not take up valuable space in room below. Adds many times its cost to the value of the home by providing extra storage or livable space.

Ask your lumber dealer or write us for details  
Address Dept. AB-638



**FARLEY & LOETSCHER MFG. CO.**  
DUBUQUE, IOWA

## Classified Advertising

### Rates:

Small letters 50c per word.

Capital letters \$1 per word.

Minimum twenty words.

To insure insertion remittance must accompany order

### Business Opportunities

For Sale and Exchange

Help and Situations Wanted

FOR SALE—Two Buff & Buff used transits. Harold Rieger, Room 1300, 65 E. South Water St., Chicago.

## METAL WEATHER STRIPS

# ACCURATE

### START YOUR OWN BUSINESS!

All buildings, large and small, must be protected against weather. There is a year 'round demand for metal weather strip installers. Accurate offers you an unusual opportunity to make money in your locality if you act promptly. No previous experience necessary. Write for full details.

FREE FOLDER

CATALOG IN SWEETS

**ACCURATE**  
METAL WEATHER STRIP CO.  
218 East 26th Street, New York

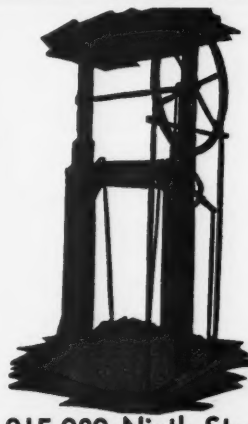
## WOOD MANTEL-PIECES OF DISTINCTION AND CHARM



A period wood mantel piece will complete the architectural motif of any room. Columbia wood mantels range in design from Ultra-modern to the very early English. Built by craftsmen according to standards of finest cabinet furniture. Model shown is No. 810 English Regency design.

WRITE FOR LITERATURE.

**The Brecher Company, Inc.**  
441 W. Jefferson St.,  
Louisville, Ky.



## KIMBALL HAND POWER ELEVATORS

A complete line of efficient Hand Power and Electric Elevators built to suit any requirement.

Fitted for rapid installation in your building. These straight-line-drive machines are little giants of lifting power and are surprisingly nominal in costs.

### FREE Engineering Data

Give us your problems and let our engineers help you. Full descriptive literature on request.

**KIMBALL BROS. CO.**

915-989 Ninth Street Council Bluffs, Iowa

## BUILDING COSTS REDUCED through MANUFACTURING

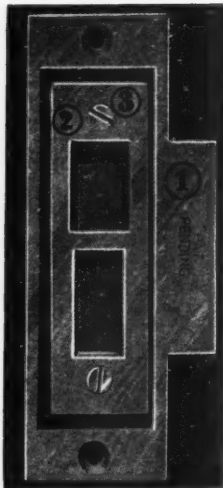


MEN OF FORESIGHT realize the big possibilities today in the building industry. They are aware of the coming shortage. They know the trend for permanent, fire-safe construction at lowest cost, and are acting accordingly.

WHY DON'T YOU GET READY and supply this need—this demand in your locality? With SUCCESS equipment you have an opportunity to build up a complete modern plant from earnings, starting with a single machine at \$190.00.

INVESTIGATE—Now is the time to get ready. Get prepared to make this double profit—one in building and the other in manufacturing. Write today for Catalog No. 67. No obligation.

**CONCRETE EQUIPMENT COMPANY**  
514 Ottawa Ave. Holland, Michigan



## FLORA ADJUSTABLE LOCK STRIKE

A sure cure for doors that rattle, sag, or do not stay closed, in new or old buildings. The latch can always be aligned with the strike by a simple adjustment:

- (1) Outside plate is mortised in door jamb in the usual manner.
- (2) Center plate is reversible and adjustable vertically or horizontally.
- (3) Set screw for adjustment of center plate gives both vertical and horizontal adjustment.

Write for complete information and quantity prices.

**FLORA MANUFACTURING CO.**  
DANVILLE VIRGINIA

## "Mister, You Ain't Got A Saw!"

Whether you use the "elbow grease" variety or an electric handsaw,—you don't know what economies are until you've tried a Wallace No. 1 Radial Saw.

Here's a "made to order" contractor's machine. In a flash, it's ready for cross-cutting, mitering, ripping, shaping, routing, daddling,—every cut used in framing and fitting the modern home.

Write today for full facts about the Radial Saw,—and what other builders save with it.

**J. D. WALLACE & CO.,**  
136 S. California Ave.  
Chicago, Ill.



## EASY as A, B, C

**A.** Easy to create owner satisfaction. Minwax beauty and durability on floors, paneling, trim help sell more houses.

**B.** Easy to sell Minwaxed floors that never need rescrapping, actually improve with ordinary care. Minwax stains and waxes in one simple operation.

**C.** Easy to get fine results economically because Minwax goes on easily, saves time, saves labor, produces an unequalled finish.

Clip this ad to your letterhead for a free Minwax sample test kit.



**MINWAX CO., INC., DEPT. AB6, 11 W. 42ND ST., NEW YORK**  
In Canada: The Atlas Asbestos Co., Ltd., Montreal  
Herbert J. Loney, Vancouver, B. C.

## 10 Day Trial No Deposit

### TRY A STERLING CONVERTIBLE LEVEL

for 10 days on your job with no expense or obligation to purchase. Sturdier construction, higher power telescope, and exclusive patented features assure greater accuracy and lower operating costs. Save time and make more money by using a Sterling Level.

Clip this coupon to your letterhead.

**WARREN-KNIGHT CO.**  
136 N. 12th St., Philadelphia, Pa.  
Send new Bulletin F-36 describing Sterling Convertible Level, Model No. 40, and giving details of free trial offer and easy payment purchase plan.  
Name.....  
Address.....  
Position.....



(Patented)

The Gold Medal  
Level  
Sterling  
Model No. 40  
**\$100.00**

## IRON RAILING

of every description

**FOR INTERIOR AND  
EXTERIOR USE**



Also  
Iron Fence, Gates, Iron  
and Wire Window  
guards, Chain Link  
Wire Fence, etc.  
Send measurements  
showing your require-  
ments and we will for-  
ward illustrations suit-  
able for your enclosure.

**CINCINNATI IRON FENCE CO., INC.**

3411 Spring Grove Ave.

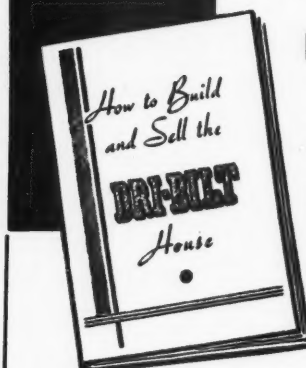
CINCINNATI

OHIO

## Get this Booklet Erect DRI-BILT Houses

By using Westboard Panels and Trim you can meet the low-cost housing demand. Build from your own plans. This booklet tells you how. Send 20c in stamps or coin, a copy will be mailed to you at once. Hundreds of contractors, builders and lumber dealers are profiting by the valuable information this book contains.

Complete plans,  
working drawings,  
details, and sug-  
gestions for build-  
ing and selling  
DRI-BILT Houses.



**WASHINGTON VENEER CO.**  
OLYMPIA WASHINGTON



## The New 1938 BOOK GUIDE of American Builder and Building Age

Describes 500 of the best books on all kinds of building subjects. Full data, including year of publication, is given so you can locate the latest book on the subject you are interested in.

### Brief Table of Contents

Air Conditioning—Appraising Real Estate—Architectural Drafting—Blueprint Reading—Bookkeeping—Brickwork—Cabinet Making—Carpentry—Concrete Construction—Decorating—Electric Wiring—Estimating—Excavating—Farm Buildings—Fireplaces—Foundations—Furniture Making—Garages—Heating—Hollow Tile—Job Management—Landscaping—Log Cabins—Material Dealers—Mechanical Equipment—Painting—Plan Books—Plastering—Plumbing—Roof Framing—Sheet Metal Work—Shopcrafting—Slate Roofs—Specifications—Stair Building—Steel Square—Stone Masonry—Structural Engineering—Wood Structural Design.

Free on Request

Book Service Department

**American Builder and Building Age**  
30 Church Street New York, N. Y.

## INDEX TO ADVERTISERS

JUNE, 1938

## A

A-B-C Mfg. Co.	113
Accurate Metal Weather Strip Co.	115
Adams & Westlake Co., The	101
Allith-Prouty, Inc.	111
Aluminum Company of America	3rd Cover
American Builder	102-103-105-109-113-116
American Floor Surfacing Machine Company, The	88
American Gas Association	79
American Lumber & Treating Company	92
American Rolling Mill Company, The	95
American Saw Mill Machinery Co.	113
Andersen Corporation	12
Anthraxite Industries, Inc.	15
Arkansas Oak Flooring Company	107
Armstrong Cork Products Company	87

## B

Barber Asphalt Corporation	83
Bilco Mfg. Co.	111
Bradley Lumber Company of Arkansas	22
Brecher Company, Inc., The	115
Bruce Co., E. L.	34
Buffalo Forge Company	110
Burnham Boiler Corporation	96

## C

Celotex Corporation, The	2
Cincinnati Iron Fence Co., Inc.	116
Colorcrete Industries, Inc.	110
Concrete Equipment Company	115
Construction Machinery Company	113
Crane Co.	25
Curtis Companies Service Bureau	23

## D

Dennis & Co., W. J.	112
De Walt Products Corporation	106
Douglas Fir Plywood Association	7
Dunn Mfg. Co., W. E.	97

## E

Edwards Manufacturing Company, The	104
------------------------------------	-----

## F

Farley & Loetscher Mfg. Co.	115
Flora Manufacturing Co.	116
Ford Motor Company	6
Fourco Glass Co.	97

## G

General Electric Company	17-81
General Electric Home Bureau	81

## H

Harbor Plywood Corporation	8
Heatilator Company	107
Herron-Zimmers Moulding Co.	112
Hillwood Mfg. Co.	113
Holland Furnace Company	11
Homasote Company	94
Hopes Windows, Inc.	95

## J

Jaeger Machine Co., The	13
Johns-Manville	24

## K

Kawneer Company, The	20
Keasbey & Mattison Company	16
Kees Mfg. Co., F. D.	112
Kimball Bros. Co.	115
Kimberly-Clark Corporation	14
Kinnear Mfg. Co., The	115
Kitchen Maid Corp., The	108
Kwik-Mix Concrete Mixer Co.	107

## L

Laucks, Inc., I. F.	115
Lehigh Portland Cement Company	31
Libbey-Owens-Ford Glass Company	21
Lincoln-Schlueter Floor Machine Co.	101
Lone Star Cement Corporation	38
Louisville Cement Company, Incorporated	5
Ludlum Steel Co.	9

## M

Mall Tool Company	111
Maple Flooring Manufacturers Association	105
Marquette Cement Manufacturing Co.	19
Marsh Wall Products, Inc.	84
Masonite Corporation	89
Master Metal Strip Service	106
McKinney Manufacturing Co.	93
Meeker Bros.	91
Milcor Steel Company	118
Minwax Co., Inc.	116

## N

National Coal Association	36
National Manufacturing Company	4th Cover

## O

Ohio Hydrate & Supply Company, The	90
Overhead Door Corporation	18
Owens-Illinois Glass Company	10

## P

Parks Woodworking Machine Co., The	108
Payne Furnace & Supply Co., Inc.	87
Peerless Manufacturing Corp.	105
Pittsburgh Plate Glass Company	45
Porter-Cable Machine Company, The	99
Portland Cement Association	99

## R

Reardon Company, The	26
Red Cedar Shingle Bureau	28
Reliable Jack Co.	101
Republic Steel Corporation	3
Rowe Manufacturing Co.	93
Ryerson & Son, Inc., Joseph T.	107

## S

Skilsaw, Inc.	77
Smith Company, The T. L.	89
Stanley Works, The	4-100
Sterling Wheelbarrow Co.	104

## T

Tile-Tex Company, The	98
Truscon Steel Company	3

## U

United States Gypsum Company	27
United States Steel Corporation Subsidiary	33
Universal Atlas Cement Co.	33

## V

Victor Electric Products, Inc.	91
Vitrolite Division, Libbey-Owens-Ford Glass Company	21

## W

Wagner Mfg. Co.	113
Wallace & Co., J. D.	116
Warren-Knight Co.	116
Washington Veneer Co.	116
Western Pine Association	86
Weyerhaeuser Sales Company	30
Wheeling Corrugating Company	29
Wood Conversion Company	32
Wright Rubber Products Co.	111

NOTICE TO ADVERTISERS—Forms for the July number of the American Builder and Building Age will close promptly on June 15. New copy, changes, order for omissions of advertisements must reach our business office, 105 West Adams St., Chicago, not later than the above date. If new copy is not received by the 20th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts. AMERICAN BUILDER AND BUILDING AGE.

"Gentlemen, beauty  
in plaster is *more*  
than *skin-deep*"



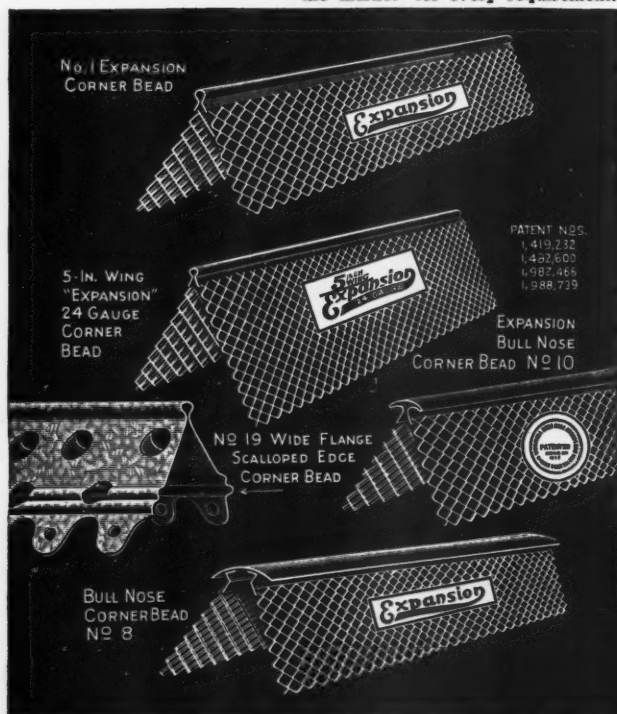
The most complete line of corner bead on  
the market—for every requirement.

**MILCOR**  
Corner Bead is  
part of the *steel base*  
*system* that insures  
*permanent* beauty  
and the satisfaction of your client . . .

Architects know that — and a surprising number of laymen know it too, when they set out to buy or build a house. You can sell with assurance, when Milcor's interlocking web of Expanded Metal gives you full confidence that the plaster corners will last. And that gives your prospect confidence in your methods and materials all through the house . . . Corner Bead (including the expanded type originated and patented by Milcor) is an important element in steel plaster base. Milcor makes the most complete line on the market — in this as in other types of steel plaster base materials. No Milcor dealer is ever tempted to recommend the wrong product — because he always has the *right* one available quickly from one of the five great Milcor plants.

Write for the Milcor Manual.

F-4A



Unit of the **MILCOR**  
SYSTEM of fireproof construction

Milcor here uses the word "system" in its true sense — not to signify a limited, inflexible set-up applicable only under certain conditions, but to represent so great a range of individual products, types, weights, metals, etc., that a complete, co-ordinated metal backbone can be designed to suit any condition of fireproof construction — all with Milcor products engineered to work together.

**MILCOR STEEL COMPANY**

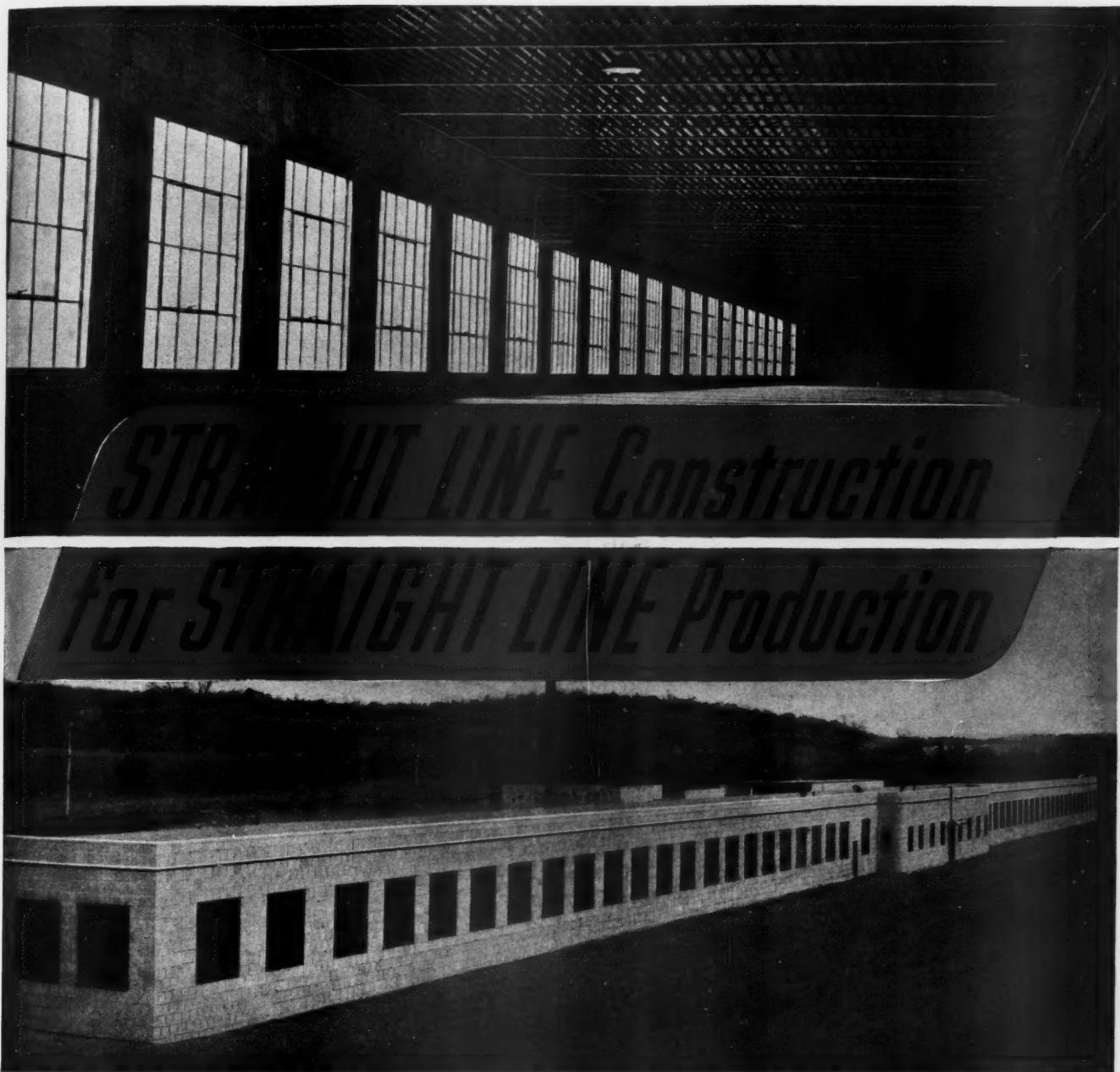
MILWAUKEE, WISCONSIN

CANTON, OHIO

Chicago, Ill.

Kansas City, Mo.

La Crosse, Wis.



*STRAIGHT LINE Construction*

*For STRAIGHT LINE Production*



● The building illustrated was planned on the principle that raw materials become finished products in less time and at less cost when moving in straight line production. ● The builder of the factory illustrated also applied the "straight line principle" when he specified Truscon Open-Truss Steel Joists, Ferrobord Steeldeck Roof, Industrial Steel Doors, Commercial and Architectural Projected Steel Windows, Structural Steel, Reinforcing Steel, Metal Lath and Metal Lath Accessories. All these products moved in a "straight line" from Truscon to the job site.

The builder wisely saved himself a multitude of details by concentrating responsibility in one source, TRUSCON. ● You, too, can save *your* time and aid *your* profits by using the "straight line" principle made possible by the complete line of Truscon Steel Products.

**TRUSCON**  
*Steel company*

YOUNGSTOWN • • • OHIO

57 SALES-ENGINEERING OFFICES  
SUBSIDIARY: REPUBLIC STEEL CORPORATION

I use the Curtis Recipe to help *Mrs. America*

## PLAN HER KITCHEN!



OVER 50,000 times it has worked—the Curtis Kitchen Planning recipe! No other kitchen planning service can boast this long list of triumphs. For Curtis has planned kitchens for American housewives for over ten years.

To Mrs. America, the kitchen is the most important room in the house. And you can make your selling job easier by knowing more about *her* business. That's why we suggest that you learn more about the Curtis Kitchen Planning Service. Here's how!

Beat a path to your Curtis Dealer's door! He can tell you all about this Service—about the Curtis Cabinet line of modern, durable, sanitary, convenient cabinets built of wood. They're easy to

install; come to the job in dustproof cartons. They're painted after installation—the housewife chooses her own color. Their arrangement is flexible—easy to install for present needs, easy to make changes in the future.

Curtis Cabinets give you a big remodeling opportunity, too! For homes, schools, taverns, hospitals, churches and stores all need storage space in their kitchens. When there's building or remodeling in *any* of these markets, the Curtis line is the most complete, most flexible and the easiest to sell!

See your Curtis dealer now for full information on the Curtis Kitchen Planning Service. There's one near you. Ask him about the new 1938 Curtis designs, too.

**CURTIS COMPANIES SERVICE BUREAU**  
DEPT. AB-7-K CLINTON, IOWA

CURTIS COMPANIES SERVICE BUREAU, Dept. AB-7-K, Clinton, Iowa  
CANADIAN INQUIRIES, Dept. AB-7-K, 25 Baywater Ave., Ottawa, Ont.

Please send me details on the Curtis Kitchen Planning Service ☐  
and on other Curtis Woodwork ☐

Name.....

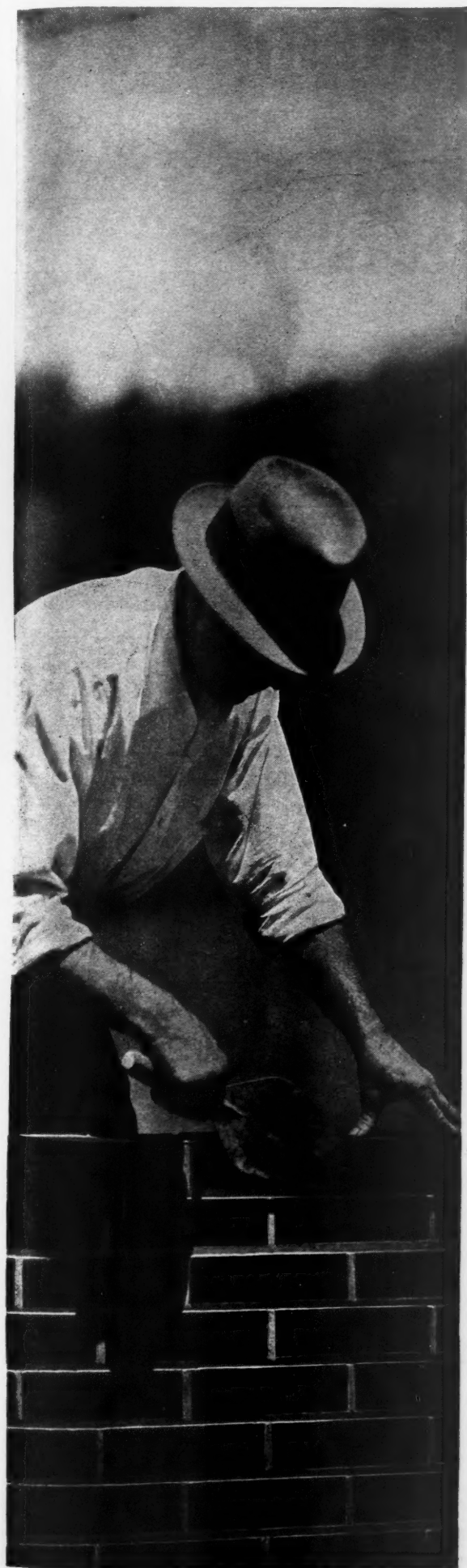
Address.....

City..... State.....

1865  
**CURTIS**  
WOODWORK

**AND OTHER CURTIS PRODUCTS**—Silentite Double-Hung and Casement Windows Exterior and Interior Doors • Frames • Trim Entrances • Molding • Panel Work • Cabinet Work • Mantels • Stairways • Shutters Screens • Storm Doors and Windows • Garage Doors • Mitertite Door and Window Trim.

Curtis Woodwork is sold by  
Reliable Dealers Everywhere

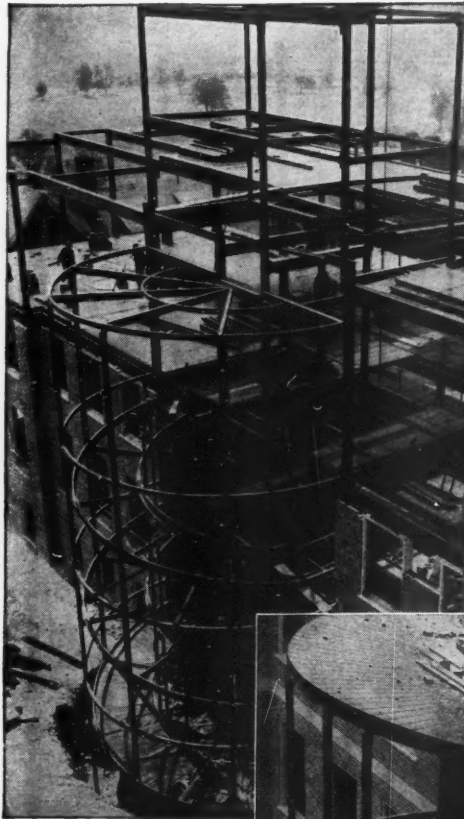


# BRIXMENT MORTAR IS ECONOMICAL

**O**N any job, large or small, Brixment reduces the cost of brickwork. \* \* Since Brixment requires no soaking or slaking, it can be used as soon as delivered. Neither men nor materials need be sent to the job in advance of actual work, and bricklayers are never kept waiting for mortar. Less supervision and less labor are required in mixing. It can be mixed in large or small batches as the work progresses, to come out even at the end of the day. No mortar is wasted. \* \* Because it is more plastic, Brixment mortar saves bricklayers' time. It spreads easier. The brick are more easily laid to the line. And when the bricklayer throws up the headjoint, the mortar sticks to the brick. It leaves the trowel clean, so the bricklayer doesn't muck up the wall when he cuts off the bed joint. Walls laid in Brixment mortar are therefore neater and easier to clean down. \* \* Brixment easily carries three full parts of sand. It costs less than the cement and lime required to make an equal amount of good mortar. Five bags will lay approximately 1000 brick.

Louisville Cement Company, Incorporated,  
Louisville, Kentucky.

# Floors, Roofs and Ramps are



Note how Wheeling Long Span System has simplified the installation of ramps, floors and the circular roof of this building. Wheeling Long Span System saves time as well as material. No delays waiting for this construction to dry. It can be used by tradesmen immediately after it is installed.



## LONG-SPAN STEEL FLOOR AND ROOF SYSTEM

### *The Quickly Erected Fireproof Construction*

Architects and contractors who want to simplify difficult floor and roof problems use Wheeling Long Span Steel Joist System. The flexibility of this type of construction makes it ideal for spiral ramps, circular roofs and similar applications. The pre-fabricated units are ready to set in place upon delivery to the job and correct assembly does not depend on the skill of the individual workmen. Dimensions are predetermined at the factory. The Wheeling Long Span System takes any type of finish—and permits attachment of metal lath ceilings directly to the bottom of the joist. Write for details.

Each Wheeling Long Span Joist has, on its top flange, a shelf  $1\frac{1}{2}$ " wide, to which the top flange of the adjoining joist is welded. Six men can place, weld and complete approximately 1,000 sq. ft. of floor or roof in an hour.

Wheeling Long Span Steel Joists are 5", 6" and 8" deep and as long as needed to span the distance from girder to girder or from truss to truss. They are 12 or 14 gauge COP-R-LOY—Wheeling's famous rust-resisting copper alloy.

NEW YORK  
CHICAGO  
BUFFALO

ST. LOUIS  
PHILADELPHIA  
LOUISVILLE

**WHEELING CORRUGATING CO.**  
WHEELING, WEST VIRGINIA

KANSAS CITY  
ATLANTA  
COLUMBUS, O.

MINNEAPOLIS  
RICHMOND  
DETROIT



## APPROVED EQUIPMENT

The presence of The Anthracite Industries, Inc., Seal of Approval on heating equipment indicates satisfactory performance in a series of exhaustive, unbiased tests, using Pennsylvania Anthracite. This symbol is a dependable buying guide in the selection of modern anthracite heating equipment.

### BOILERS\*

**ARCO No. 7 IDEAL BOILER**  
American Radiator Co., 40 W. 40th St., N. Y. C.

**BURNHAM ANTHRA-HEAT UNIT** (Magazine Feed). Burnham Boiler Corp., Irvington, N. Y.

**FITZGIBBONS ANTHRA-HEAT BOILER** (Magazine), and "COAL-EIGHTY" (Stoker-fired). Fitzgibbons Boiler Co., Inc., N. Y. C.

**INTERNATIONAL STOKER-BOILER** (Stoker-fired). International Boiler Works, E. Stroudsburg, Pa.

**KEWANEE ROUND TYPE R BOILER**  
Kewanee Boiler Corp., Kewanee, Ill.

**NEWPORT** (Magazine Feed)  
Richardson & Boynton, New York

**PEERLESS TYPE EB BOILER**. Peerless Heater Div., Eastern Foundry Co., Boyertown, Pa.

**SPENCER** (Magazine Feed). **SPENCER STEEL STOKER BOILER** (Stoker-fired). Spencer Heater Div., Lycoming Mfg. Co., Williamsport, Pa.

**WEIL-MCLAIN** (Magazine Feed)  
Weil-McLain Co., Michigan City, Ind.

### WARM AIR FURNACES\*

**ALLIS-CHALMERS UNIVERSAL HEATER** (Magazine Feed Type)  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

**FITZGIBBONS DIRECTAIRE**  
(Approved for stoker-firing only).  
Fitzgibbons Boiler Co., Inc., N. Y. C.

**FOX SUNBEAM FURNACE** (Stoker-Fired)  
Fox Furnace Co., Elyria, Ohio

**KELSEY WARM AIR GENERATOR**  
(Approved for stoker firing only).  
Kelsey Heating Co., Syracuse, N. Y.

**MUELLER STEEL WARM AIR FURNACE**  
L. J. Mueller Furnace Co., Milwaukee, Wis.

**SPEAR WARM AIR DISTRIBUTOR** (Approved for stoker firing only). James Spear Stove & Heater Co., 1823 Market St., Philadelphia, Pa.

**WATERMAN WATERBURY AIR CONDITIONER**. (Approved for stoker firing only.)  
Waterman Waterbury Co., Minneapolis, Minn.

\*Any of the boiler or warm air furnace manufacturers listed above will furnish complete information on winter anthracite air-conditioning.

### AUTOMATIC ANTHRACITE STOKERS

**AUTOCOAL ANTHRACITE STOKER**  
Crane Co., 836 S. Michigan Ave., Chicago, Ill.

**COOPER**. Cooper & Cooper, Inc.,  
37 Fenn St., Pittsfield, Mass.

**D & E AUTOMATIC ANTHRACITE BURNERS**  
Dickson & Eddy, 17 Battery Place, N. Y. C.

**ELECTRIC FURNACE-MAN**  
Electric Furnace-Man, Inc., 7 Dey St., N. Y. C.

**FAIRBANKS-MORSE** (Hopper Feed Only). Fairbanks, Morse & Co., 900 S. Wabash Av., Chicago.

**FLYNN & EMRICH ANTHRACITE STOKER**  
Flynn & Emrich Co., Baltimore, Md.

**FREDERICK ANTHRACITE BURNER**  
Frederick Iron & Steel Co., Frederick, Md.

**FREED**  
Freed Heater & Mfg. Co., Collegeville, Pa.

**FUEL SAVERS**  
Fuel Savers, Inc., 15 & Herr Sts., Harrisburg, Pa.

### GENERAL STOKER

General Stokers, Inc., Broad St. Station, Phila.

**GILKOAAL**  
Catskill Metal Works, Catskill, N. Y.

**HERCULES ANTHRACITE BURNER**  
Sears, Roebuck & Co., Chicago, Ill.

**HOLLAND ANTHRACITE STOKER**  
Holland Furnace Co., Holland, Mich.

**IRON FIREMAN**. Iron Fireman Mfg. Co.,  
420 Lexington Ave., N. Y. C.

**LINK-BELT** (Hopper Feed Only). Link-Belt Co.,  
2045 W. Hunting Park Ave., Philadelphia, Pa.

**MASTER ANTHRACITE STOKER**  
Muncie Gear Works, Inc., Muncie, Ind.

**MOTORSTOKOR**  
Hershey Machine & Foundry Co., Manheim, Pa.

**NEWTON STOKERS**. Newton Supply Co.,  
53rd & Baltimore Ave., Philadelphia, Pa.

**SKELLY**  
Combustion Engr. Co., 60 E. 42nd St., N. Y. C.

**STOKOL**  
Schwitzer-Cummins Co., Indianapolis, Ind.

**VULCAN**  
Vulcan Anthracite Stoker Co., Wilkes-Barre, Pa.

### BURNER BOILER UNITS

**IMP. V. M. Cruikshank Utilities**,  
18 S. 7th St., Sunbury, Pa.

**WESTINGHOUSE**. Westinghouse Electric Co.,  
3001 Walnut St., Philadelphia, Pa.

### THERMOSTATIC CONTROLS

**AFCO ALL-ELECTRIC HEAT REGULATOR**  
Atlas Foundry Co., Irvington, N. J.

**CHANDLER HEAT REGULATOR**  
Cleveland Steel Products Co., Wellington, Ohio

**COOK HEAT CONTROL**  
Cook Electric Co., 2700 Southport Ave., Chicago

**DETROIT ROOM THERMOSTAT**. Detroit  
Lubricator Co., 5900 Trumbull Ave., Detroit

**ELECTRIC JANITOR**. Minneapolis-Honeywell  
Regulator Corp., Minneapolis, Minn.

**GLEASON-AVERY ELEC. TEMP. REGULATORS**  
Gleason-Avery, Inc., 27 Clark St., Auburn, N. Y.

**MASTER HEAT REGULATOR**. White Mfg. Co.,  
2362 University Ave., St. Paul, Minn.

**MERCROID CONTROLS**  
Mercroid Corp., 4201 Belmont Ave., Chicago, Ill.

**MINNEAPOLIS-HONEYWELL CONTROLS**  
Minneapolis-Honeywell Regulator Co.,  
Minneapolis, Minn.

**PENN TEMTROL**  
Penn Electric Switch Co., Goshen, Ind.

**PERFEX CONTROLS**. Perfex Controls Co.,  
915 W. Oklahoma Place, Milwaukee, Wis.

**PIONEER HEAT REGULATORS**. Pioneer Heat  
Reg. Div., Master Electric Co., Dayton, Ohio

**RUSSELL "HOLD-HEET" THERMOSTAT**  
Russell Electric Co., 340 W. Huron St., Chicago

**SHEER HEAT REGULATORS**  
H. M. Sheer Co., Quincy, Ill.

**THRUSH RADIANT HEAT CONTROL**  
H. A. Thrush & Co., Peru, Ind.

**UNITED CONTROLS No. 11 THERMOSTAT**  
United Electric Controls Co., Boston, Mass.

### CONTROLS FOR TANK HEATERS

(Domestic Hot Water Supply)

**ANTHRACITE HOT WATER REGULATOR & 'BLUE COAL' HOT WATER REGULATOR**  
D. L. & W. Coal Co., 120 Broadway, N. Y. C.

**DEEGAN No. 122 REGULATOR**  
Deegan Regulator Co., 725 E. 135th St., N. Y. C.

**JAMES REGULATOR**. James Regulator Co.,  
382 Peacock St., Pottsville, Pa.

**METAPHRAM H-3 REGULATOR**  
National Reg. Div., Minn.-Honeywell Reg. Co.,  
2301 Knox Ave., Chicago, Ill.

**SYLPHON REGULATOR**  
Fulton Sylphon Co., Knoxville, Tenn.

### SERVICE WATER HEATING EQUIPMENT

(Domestic Hot Water Supply)

#### Tank Heaters\*

**BENGAL** (Magazine Feed Type)  
Floyd-Wells Co., Royersford, Pa.

**FREED** (Magazine Feed Type)  
Freed Heater & Mfg. Co., Collegeville, Pa.

**PEERLESS** (Magazine Feed Type). Peerless  
Htr. Div., Eastern Foundry Co., Boyertown, Pa.

**ELECTRIC FURNACE-MAN**  
(Stoker-fired for large installations)  
Electric Furnace-Man, Inc., 7 Dey St., N. Y. C.

**SPENCER HEATERS**  
Spencer Heater, Williamsport, Pa.

\*In addition to these specialized heaters, there are a number of standard tank heaters available through various plumbing supply houses. When equipped with an Approved Control and a proper sized tank, these units give remarkable satisfaction and economy with Anthracite.

### INDIRECT HEATERS

**B & G**  
Bell & Gossett Co., 3000 Wallace St., Chicago

**EXCELSO**. Excelsio Products Co.,  
65 Clyde Ave., Buffalo, N. Y.

**PARACOIL**. Davis Engineering Corp.,  
1058-72 E. Grand Ave., Elizabeth, N. J.

**TACO**  
Taco Heaters, Inc., 342 Madison Ave., N. Y. C.

### KITCHEN RANGES

**AGA STOVE**  
Aga Stove Co., 500 Fifth Ave., N. Y. C.

**DUTCH OVEN KITCHEN RANGE**  
Globe Stove & Range Co., Kokomo, Ind.

**JEDDO-HIGHLAND HEATERANGE**  
Heaterange Corp., Jeddo, Pa.

**KOL-AX RANGE**  
Kol-Ax Co., Inc., Stroudsburg, Pa.

**NEW YORK FRENCH RANGE**. New York  
French Range Co., 188 Chambers St., N. Y. C.

### SPACE HEATERS

**BRIGHT MONOGRAM BASE BURNER**  
Quincy Mfg. Co., Quincy, Ill.

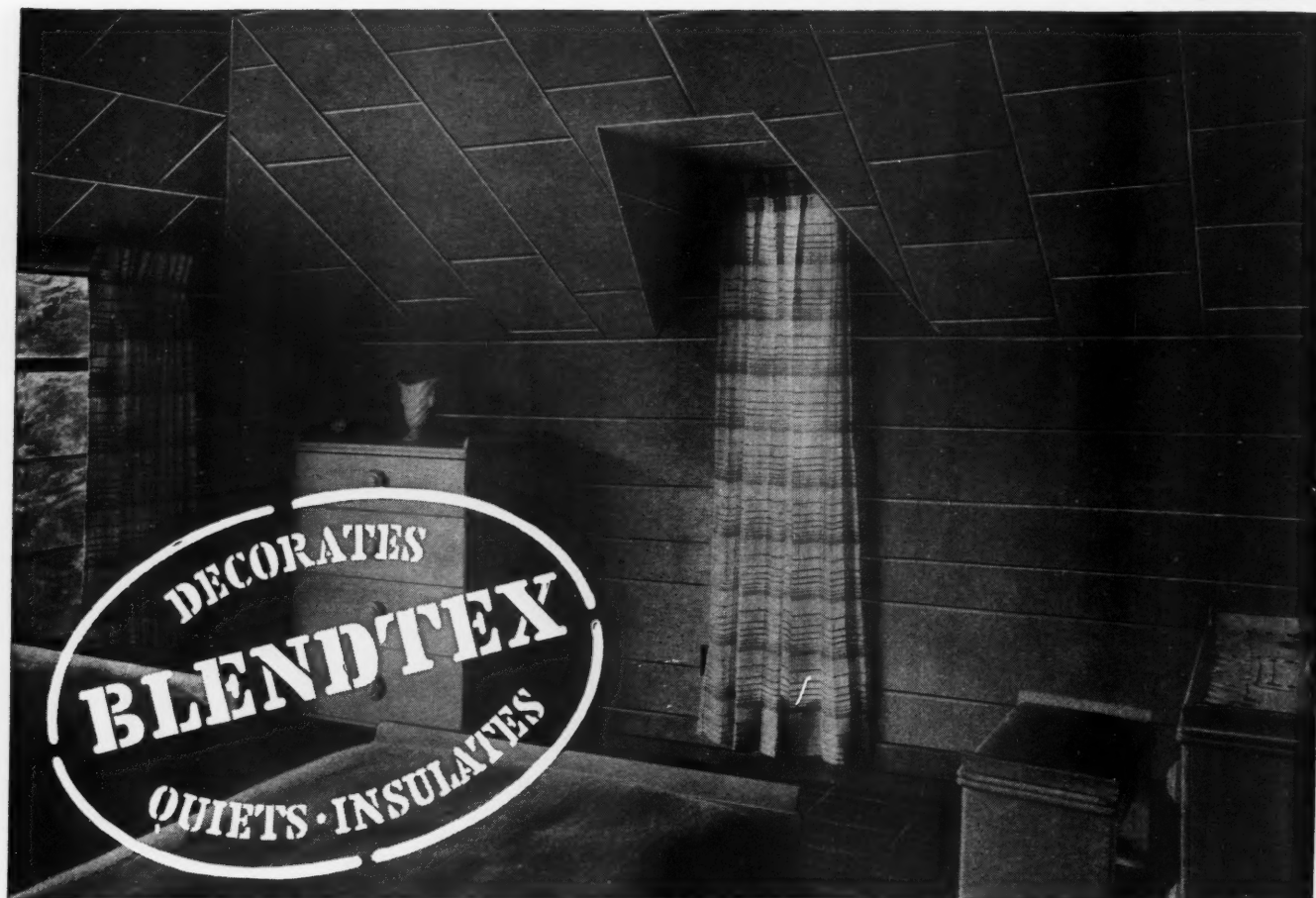
**GLOW BOY PARLOR HEATER**  
Globe Stove & Range Co., Kokomo, Ind.

**RENOWN**  
Renown Stove Co., Owosso, Mich.

**ESTATE HEATROLA**  
Estate Stove Co., Hamilton, Ohio

**ANTHRACITE INDUSTRIES, INC., Chrysler Bldg., New York**

**"BLENDTEXING" is your business opportunity**  
*It's profitable—it's continuous*



## ..IT "STAMPS" ROOMS WITH DISTINCTION

Here's your answer in the everlasting market—remodeling! Here's a product that gives fascinating decoration to *new* walls and ceilings.

It's Weatherwood\* Blendtex—a new idea in wall and ceiling covering. Soft, pastel colors are harmoniously blended with an interesting texture to provide unusual distinction in an interior finish for all kinds of rooms. It comes to the job pre-decorated. *Its surface is treated* for long use without frequent re-decoration expense. Factory-fitted units in tile and

plank shapes enable you to build, insulate, quiet noise and decorate *all at once* and at a surprisingly low cost.

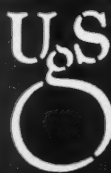
"Blendtexing" is a business by itself. A never-ending chain of jobs are yours to sell and apply. There are old walls and ceilings and new walls and ceilings in homes, schools, churches, theatres, hotels, offices, stores, and in countless other jobs just waiting for Blendtex and you.

*See Blendtex—then you will appreciate its exquisite harmony of color and texture. Ask your USG dealer—or return this coupon.*

## United States Gypsum Company

PLASTERS . . ROCKLATH\* . . METAL LATH  
 SHEETROCK\* . . FIBER WALLBOARD . . SHEATH-  
 ING . . INSULATING BOARD . . INSULATING WOOL  
 ACOUSTICAL MATERIALS . . PAINT PRODUCTS  
 STEEL PRODUCTS . . ROOFING PRODUCTS  
 . . SIDING PRODUCTS . . LIME PRODUCTS.

\*Registered trade-marks



UNITED STATES GYPSUM COMPANY  
 300 West Adams Street, Chicago, Ill.  
 Please tell me about Weatherwood Blendtex.

Name.....

Address.....

City.....State.....

AB-7

# YOU CAN CUT SHEATHING COSTS AT LEAST 25% WITH PLYSCORD<sup>TRADE MARK</sup> SHEATHING! (GENUINE DOUGLAS FIR PLYWOOD) REG. U. S. PAT. OFF. PEND.



**O**NCE again, Douglas Fir Plywood helps you cut your building costs—and at the same time improve the quality of the houses you build.

Now it's PLYSCORD, the new Douglas Fir Plywood trademarked sheathing. It has a vastly improved face—and is mill-scored for easy nailing, with guide lines on 16-inch centers. For easy fit PLYSCORD panels come in two widths, 32" and 48", each full 96" long; three thicknesses, 5/16", 3/8" and 5/8".

When you use PLYSCORD you save so many ways in time, materials and labor. Many builders have cut application costs as much as 50%. These savings on labor, time and materials have been laboratory tested—and *proved* on job after job. Yet with these savings, PLYSCORD gives 40% more rigidity to your walls than ordinary diagonal sheathing—makes homes air-tight, dust-proof, warmer.

Save on your next building job with PLYSCORD Sheathing. Use Douglas Fir Plywood, too, for subfloors, partitions and wherever you think about wallboard. Your local lumber dealer can supply you. See him **TODAY** for prices.

**DOUGLAS FIR PLYWOOD ASSOCIATION**  
TACOMA BUILDING • TACOMA, WASHINGTON

**Here's How This New  
and Different  
Real Lumber Sheathing  
Helps You Do It . . .**

★ ★ ★

● **QUICK—EASY NAILING.**

Plyscord has guide lines on 16-inch centers—no guessing where the stud is.

● **SAVES TIME—LABOR.**

Big, light panels cover large areas rapidly—one man can handle them easily.

● **TWO WIDTHS.**

32" and 48"—quick fitting—minimum sawing—full 96" long—5/16" thickness (also 3/8" and 5/8").

● **TAKES FEWER NAILS.**

Saves more than 50% on nailing costs. Takes nails right to the edge without splitting.

● **IMPROVED FACE.**

No large knots, no pitch pockets.

● **GIVES GREATER COMFORT.**

Walls of Plyscord are air-tight, dust-proof, make homes warmer.

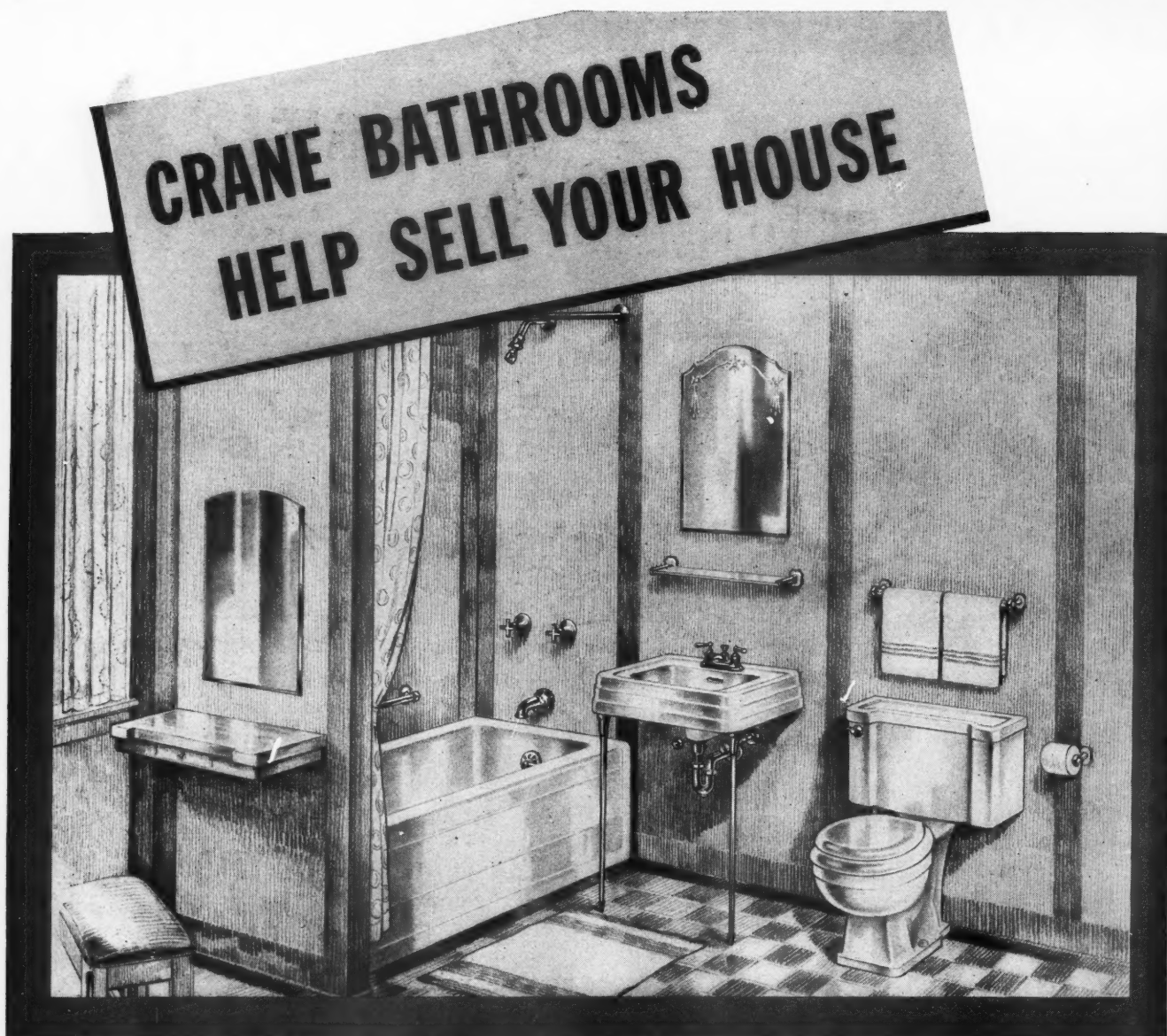
● **COSTS LESS.**

First cost less than "substitute" sheathings—no waste in use—application costs lower.

**. . . and as to this condensation problem!**

"Don't seal moisture within the walls," say research experts. The most efficient vapor seal is one that is as close as possible to the warm wall. Where condensation may develop in walls or roof spaces, a highly efficient vapor seal at *very low expense* can be achieved with two coats of asphalt paint on the back of Douglas Fir Plywood interior wall paneling, or by applying a layer of asphalt coated and impregnated 50-pound paper to studs and ceiling joists before applying the plywood, according to tests made at the Forest Products Laboratory, Madison, Wisconsin.

**DOUGLAS FIR  
PLYWOOD**  
*Real Lumber*  
**MADE LARGER, LIGHTER  
SPLIT-PROOF  
STRONGER**



THERE's a big sales advantage when you can point to a Crane Bathroom in the house you are selling. Your prospects all know Crane quality—and judge the quality of the whole house by this name on the plumbing. They recognize that trouble-free, care-free service as well as beauty and distinctive design is theirs when the important sanitary equipment is built by Crane.

Because of its high quality, your prospects are also inclined to associate the name Crane with high cost; and the use of this equipment, therefore, plays an important part in your selling technique. But, as a matter of

fact, Crane-Equipment, despite its high quality, is made in every price range. You will be surprised at how competitively priced genuine Crane-Equipment actually is.

The bathroom shown above is reproduced from a new book just issued, showing complete, low-cost ensembles specially designed to meet the needs of the operative builder. Included is a wide range of fixtures to suit every home and every taste. This book contains practical information that should be in the hands of every operative builder. A copy will be sent to you on request—without obligation. Mail Coupon Today.

# CRANE

VALVES • FITTINGS • PIPE • PLUMBING • HEATING • PUMPS  
CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO

NATION-WIDE SERVICE THROUGH 134 BRANCHES AND  
MORE THAN 500 WHOLESALEERS



Crane Co., 836 S. Michigan Ave., Chicago, Ill.

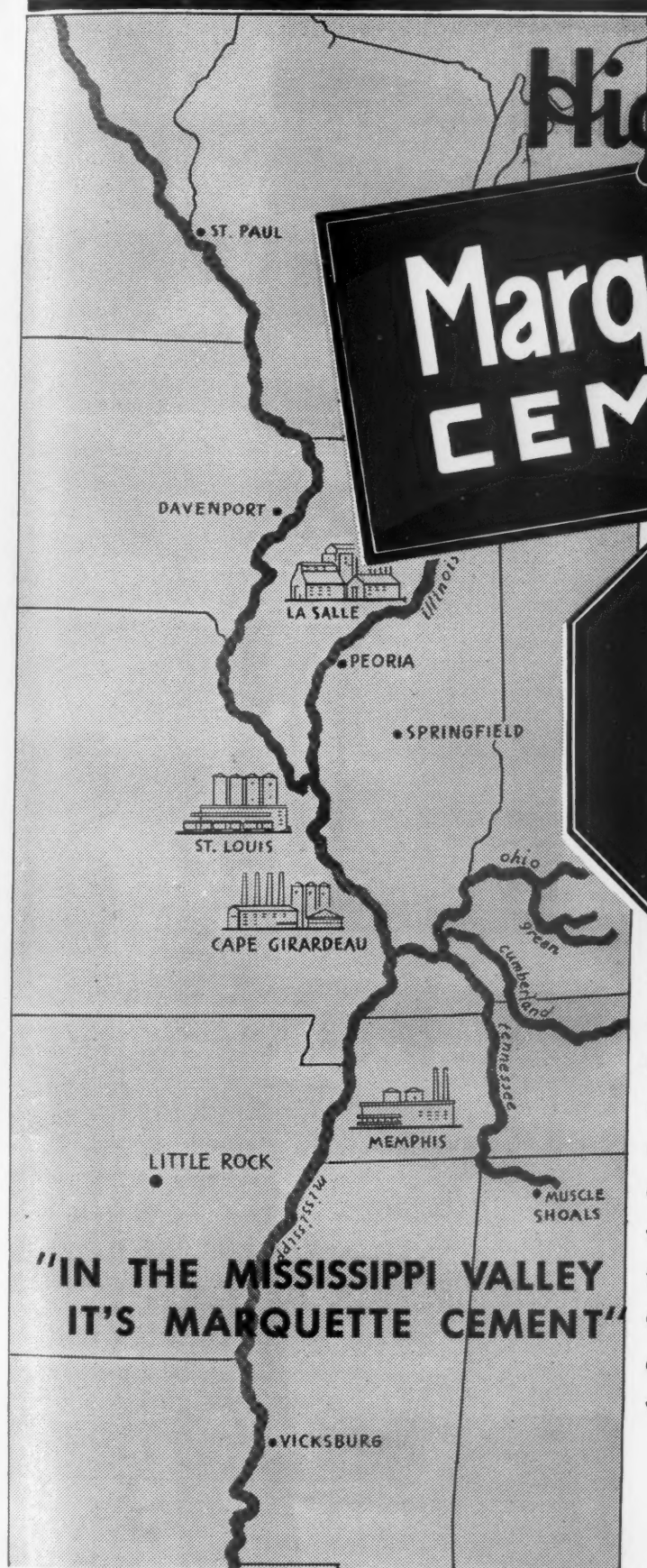
Gentlemen: Please send me a copy of your book "Quality Plumbing and Heating Equipment for the Low-Cost Home" without obligation on my part.

Name .....

Address .....

Town ..... State .....

AB-7-38



**High Test!**

**Marquette  
CEMENT**

**MARQUETTE**

**HIGH EARLY  
STRENGTH**

**PORTLAND CEMENT**

**"IN THE MISSISSIPPI VALLEY  
IT'S MARQUETTE CEMENT"**

Marquette Cement Manufacturing Company is an integral part of the great Mississippi Valley. Here are its plants . . . its central office . . . and all its customers. The majority of its stockholders are employees in the plants, in the offices, and among the salesmen on the road, who, like you, work and live in this great fertile valley and spend their money here. When you see the Marquette Cement Trademarks or hear the words "Marquette Cement," think of us as a group of individuals—with good building our common cause.

**MARQUETTE  
MASONRY  
CEMENT**

**MARQUETTE CEMENT  
MANUFACTURING COMPANY**

**CHICAGO • MEMPHIS • Plants at LA SALLE, ILLINOIS, CAPE GIRARDEAU, MISSOURI**

# EFFECTIVE TOOLS TO WORK WITH IN *Building* MODERN STORE FRONTS



Here are some typical Pittco Metal bars, moldings and sash available for your use. Most of these are stocked in aluminum with Alumilite finish, and bronze.

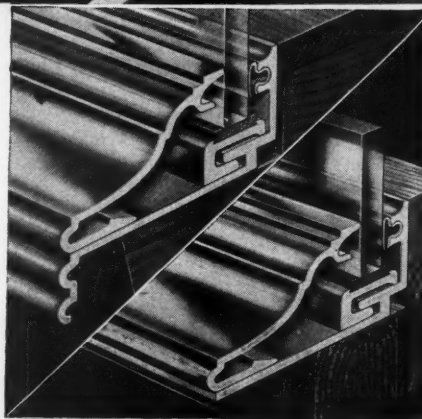
THE bars, moldings and sash in the Pittco Store Front Metal line are of finest quality. They strike a new high in pleasing design, in versatility, in number and variety of members available and in the harmonious relationship of appearance which exists between all units.

For these reasons, they are extremely valuable tools for the contractor to use in his store front work. They open up new possibilities for the use of metal in store fronts and result in more striking and successful jobs.

You will find, too, that Pittco Store

Front Metal is as practical as it is beautiful. It is strong, sturdy and durable, although unusually graceful in design. It will stand up year after year under severe usage. And it is easy to install . . . all setting operations taking place on the outside of the show window.

Let us send you more complete information about this quality store front construction. On request, we will send you our file folder containing helpful facts and detail drawings of various applications. Address Pittsburgh Plate Glass Company, 2321A Grant Building, Pittsburgh, Pa.



**PITTCO**  
STORE FRONT METAL

*Paint* • **PITTSBURGH** • *Glass*  
**PLATE GLASS COMPANY**

Makers of WALLHIDE PAINT • WATERSPAR ENAMEL AND VARNISH • SUN-PROOF PAINT • FLORHIDE • POLISHED PLATE GLASS • MIRRORS • PENNVERNON WINDOW GLASS • DUPLATE SAFETY GLASS • PITTCO STORE FRONT METAL • Distributors of PC GLASS BLOCKS and CARRARA STRUCTURAL GLASS



# ONE INCH THICKNESS Usually does the job

KIMSUL\* strikes a happy balance between the thickness of insulation needed in the walls of most homes . . . and the thickness that pays the biggest returns in comfort and fuel savings per dollar of cost. For one inch of Kimsul will ordinarily stop the biggest share of the heat that would be wasted through an uninsulated wall.

See that the insulation you choose  
meets all these requirements

**EFFICIENCY:** ("K" factor .27) Kimsul is made of wood fibres whose natural high resistance to heat is increased by interweaving, creping, and laminating.

**FLEXIBILITY:** Pliant as cloth, Kimsul can be tucked snugly into odd spaces, around windows, electric pipes, etc.

**PERMANENCE:** Processed with asphalt and non-toxic chemicals, Kimsul is highly resistant to fire, vermin and moisture.

**NON-SETTLING:** Kimsul stays put. It will not shred, sift, nor pack down . . . is unaffected by settling of walls or vibrations.

**LIGHTNESS:** 1,000 square feet of Kimsul weigh only 131.5 pounds.

It adds practically no structural load to a house.

**6 PROPER THICKNESS:** Kimsul's one-inch thickness provides maximum returns in comfort and fuel savings for the money invested.

**7 NO WASTE:** Every square inch can be used. Odd pieces can be employed as caulking.

**8 EASE OF HANDLING AND INSTALLING:** Kimsul is extremely light and is made the right width to fit between studs . . . no cutting or fitting needed.

**9 EXPANDABILITY:** An important Kimsul feature which speeds up work and reduces installation, storage and transportation costs.

\*Reg. U. S. and Can. Pat. Off.

## KIMSUL REG. U. S. & CAN. PAT. OFF. Expanding Blanket INSULATION

Because one inch is usually all that is required and provides the most protection per dollar of cost, Kimsul is made in blankets one inch thick. No need to use more than is required to do the job . . . yet when special circumstances demand extra protection it is simple to use two or more blankets.

### EXPANDABILITY . . . an Important NEW Development in Insulation

Kimsul blankets are made in twenty-inch lengths, expandable, at time of installing, to from eight feet to nearly ten feet, as shown in the photographs at the left. This greatly speeds up and lowers the cost of installing.

Due to the compressed form in which the blankets are shipped, this unusual feature also reduces shipping, storing and handling costs. Furthermore, each blanket of Kimsul is the right width to fit snugly between standard studs and expands to provide a continuous unbroken one-inch thick blanket the full length of the opening. Hence, cutting and fitting are reduced to a minimum . . . a further saving.

### GET THE FACTS REGARDING KIMSUL TODAY

KIMBERLY-CLARK CORPORATION (Kimsul Division), Neenah, Wis.  
Established 1872

NEW YORK, 123 East 42nd Street • CHICAGO, 8 South Michigan Avenue

AB7

Mail me, without  
obligation, copy  
of booklet describ-  
ing Kimsul, also a

Name \_\_\_\_\_

Address \_\_\_\_\_

NAIL IT ON  
AT TOP

PULL DOWN LIKE A  
SHADE AND FLUFF



# L·O·F SPONSORS

July 30, 1938

THE SATURDAY EVENING POST

YOU CAN ENJOY  
...eight more months of

June!

## with WINDOW CONDITIONING

### DOUBLE-GLASS INSULATION

You insulate your windows by applying double glazed sash or modern winter windows of L·O·F Quality Glass. Here's what "Window Conditioning" does for you—

1. Gives you greater comfort—better health.
2. Cuts fuel bills 20 to 30%.
3. Saves you more than any other single form of house insulation.
4. Makes uniform temperatures easier to maintain throughout the house.
5. Lessens drafty danger zones near windows and floors.
6. Makes healthful humidity possible without foggy windows, soiled draperies and moisture on window sills.
7. Reduces cleaner's bills and even doctor's bills.
8. Fuel savings help pay for a modern heating plant.
9. "Window Conditioning" is a sound investment—fuel savings alone can pay for it in less than two winters. Dividends continue year after year. Financed under F.H.A.—no down payment.

\* Send coupon for free L·O·F booklet completely describing "Window Conditioning" and containing interesting information on treatment of windows.



### YOUR NEW HOME...

If you are building a new home, ask your architect or builder about the many efficient types and attractive styles of winter windows and double glazed sash available for "Window Conditioning."



### YOUR PRESENT HOME...

May have the comfort and saving of "Window Conditioning." Storm windows are easy to install and inexpensive to buy. An estimate from your lumber dealer will convince you.

When it's winter by the calendar—way below freezing by the thermometer—you can still have June in your home and keep it there! How?—By installing storm windows or double glazed sash. You put two panes of glass between you and winter. Between the two pieces of glass a wall of captive air is formed. This air space is one of the best forms of insulation.

Result—"Window Conditioning." That means uniform temperatures throughout the home and freedom from drafty danger zones on the floor and near windows. You can have healthful humidity without the nuisance of foggy win-

dows, soiled draperies and moisture on window sills. In short, "Window Conditioning" means more comfort and more healthful winter living. And when you consider that "Window Conditioning" brings you greater fuel savings than any other single type of insulation—"Window Conditioning" is the first form of insulation you should consider when you build or remodel. To "Window Condition" your present home, call the nearest lumber dealer today. Let him explain how to arrange financing under F.H.A. with no down payment.

Quality Glass Is Important—With double

glazing, the quality of the glass is doubly important since you are looking through two pieces of glass instead of one. Because of an exclusive manufacturing process, L·O·F Window Glass is noted for its greater freedom from waviness and distortion, making it especially suited to "Window Conditioning." These advantages cost you no more but they add much to your permanent satisfaction with double glazing. Whether you buy winter windows or double glazed sash, make sure that each light bears the L·O·F label. It is your guarantee of quality in the glass in your windows.

LIBBEY · OWENS · FORD  
QUALITY GLASS

LOOK FOR THE LABEL



FREE!

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

LIBBEY-OWENS-FORD GLASS COMPANY, TOLEDO, OHIO  
Please send me your free booklet which shows typical examples of economies effected with "Window Conditioning" and interesting window treatments.

# "Window Conditioning"

## • DOUBLE-GLASS INSULATION •

### NEW MOVEMENT TO INCREASE YOUR SALES

This full-page advertisement appearing in The Saturday Evening Post in July starts to unfold a story never fully told . . . A story to be continued in leading national publications and in widespread publicity . . . a story that will mean **INCREASED SALES FOR YOU**. And this story carries an appeal that is **UNIVERSAL** . . . reaches an audience that is **RECEPTIVE**—for it points the way to added comfort, better health and greater economy in the **HOME**.

EVERY SALE OF

# "Window Conditioning"

• DOUBLE-GLASS INSULATION •

—AND THERE WILL BE HUNDREDS OF THOUSANDS—WILL BE A SALE FOR YOU OF STORM SASH, STORM DOORS OR DOUBLE GLAZED SASH.

FEW OF THE 12,000,000 OWNERS OF HOMES WITH CENTRAL HEATING PLANTS KNOW THIS—

"Window Conditioning" brings a **GREATER** savings in fuel cost, shows a **GREATER** return on the investment and pays for itself in a **SHORTER** time than **ANY OTHER SINGLE FORM OF INSULATION**.

### NOW THEY WILL BE TOLD . . .

In such outstanding publications as The Saturday Evening Post . . . Colliers . . . Good Housekeeping . . . American Home . . . Better Homes and Gardens . . . House and Garden . . . House Beautiful . . . Parents Magazine—attention-arresting, interesting advertisements to reach millions of home owners and prospective home builders—advertisements that create an **URGE to OWN**.



**YOU CAN CONVERT THIS URGE INTO ORDERS WITH THE L-O-F PLAN**—Libbey-Owens-Ford has developed a comprehensive tested plan to step up your sales of sash—way up. A plan that will bring the cooperation of heating contractors in a double drive for bigger business. A plan that capitalizes on the ever-mounting demand for greater comfort and winter air conditioning in homes, new and old. And to round out the campaign, there will be available for your use attractive, interesting, compelling consumer booklets, envelope stuffers, job signs and other promotional material. Don't delay. Write for details of this sale-stimulating plan **TODAY**. Libbey-Owens-Ford Glass Company, Toledo.

# Use these 3 Lehigh products for dependability speed performance

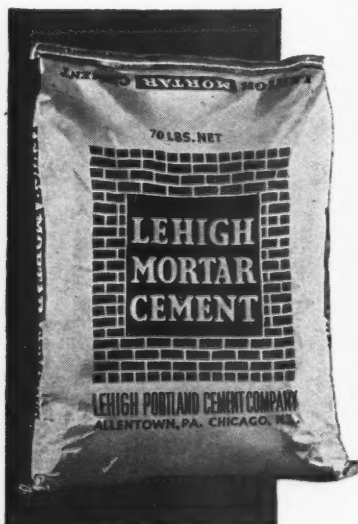


From coast to coast this old-established portland cement is known and used for its dependability. For any use of cement where normal curing time may be allowed, use

## LEHIGH NORMAL CEMENT

To all the well-known quality attributes of Lehigh Cement, Lehigh Early Strength Cement adds speed. Compared with normal cement used under the same conditions, it cures to service strength in 24 to 48 hours, instead of 7 days. It makes concrete of maximum density and plasticity. For any use of concrete when speed is desirable or may be an economy, use

## LEHIGH EARLY STRENGTH CEMENT



In Lehigh Mortar Cement, Lehigh dependability shows in performance on the job. With only sand and water to add, there is less work at the mortar box. Extreme plasticity, high water retention, strong bond, adhesiveness, minimum shrinkage, water repellency and good strength combine to make the ideal all-purpose masonry mortar. For economy, speed and dependable performance, use

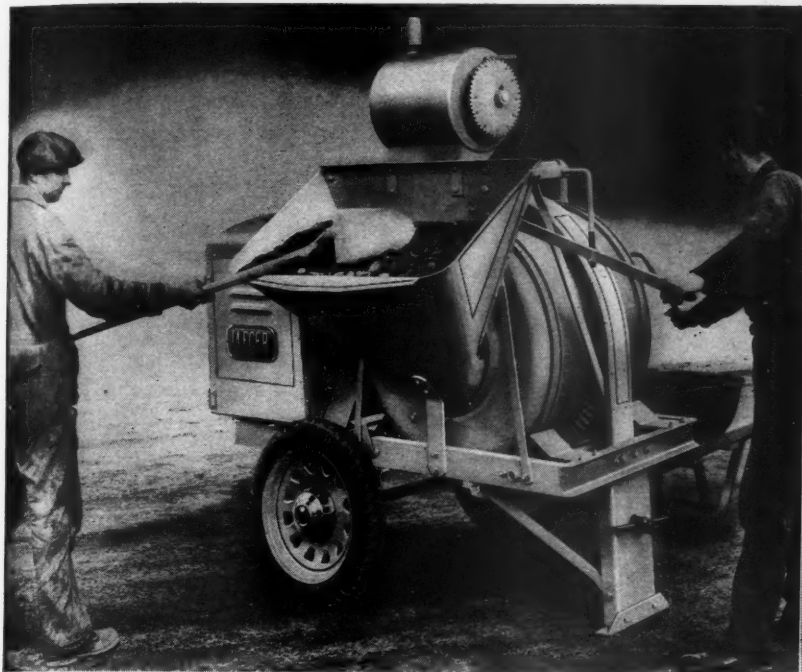
## LEHIGH MORTAR CEMENT

Lehigh products are generally available through leading building material merchants. The Lehigh Service Department will gladly answer any inquiries pertaining to the specific use of any Lehigh product, or informative literature will be sent.



**LEHIGH PORTLAND CEMENT COMPANY**  
ALLENTOWN, PA. CHICAGO, ILL. SPOKANE, WASH.

# JAEGER'S LATEST "UTILITY" MIXER



**MEASURING BATCH HOPPER**  
Loads While You Mix and  
Discharge--No Waiting  
--Fast as Power Loader

**MAKES MONEY** with 30  
to 40 Yards a Day of  
Quality Concrete--All  
Most Jobs Can Take

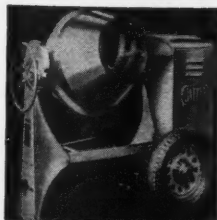
**SAVES MONEY**--Costs  
about 1/2 the Price of  
Heavy 5S Non-Tilts!

## NOTE THESE FEATURES:

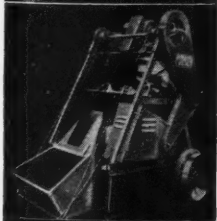
Timken Bearings, Pneumatic Tires, Spring Shock Absorbers, Telescoping Towing Pole. Husky 2 1/2 H.P. Engine, Wico Magneto, enclosed.  
Syphon Tank, Dial — for fast, accurate water measuring.  
Gated Measuring Batch Hopper with High Back.  
Criss-Cross "Re-Mix" Drum. Ball Bearing Roller Shafts.

The popular priced, light-weight, non-tilt trailer you've been looking for. While you mix and discharge one batch, next batch is being loaded — no lost time — all the speed of a power loader without the cost, plus advantage that hopper exactly measures one batch when full. Has Jaeger patented Criss-Cross "Re-Mix" Drum for fast, thorough mix and discharge — Accurate Water Tank. Rugged — trails back of a Ford car — easy handling. Send for astonishingly low price.

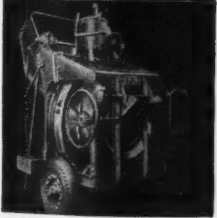
## SAVE MONEY, MAKE MONEY, with JAEGER EQUIPMENT!



**3 1/2 High Speed Tilter** — for fast trailing, thorough mixing, instant discharge.



**5S Tilter Trailer**— Popular priced, all-purpose, end-discharge mixer— Mixes concrete, mortar, plaster.



**7S and 10S Speed King End Discharge Non-Tilts.** Other sizes to 56S.

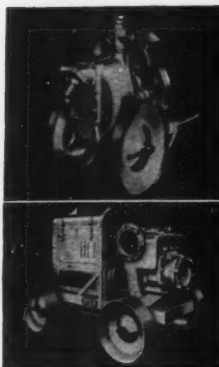


**Sure-Prime Pumps** — 2" to 10" — Capacities 7000 to 220,000 g.p.h. Fastest selling line on the market.

**World's Champion 5200 Gallon "Bantam" Pump**

Only **\$75.00** F. O. B. Factory Complete with Engine.

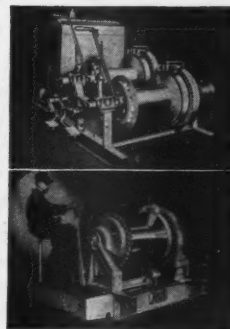
Most portable pump on the market — Get new Catalog!



**LOW PRICED HOISTS**

10-20 H.P. Screw Thrust Speed Boys. Gas or Electric.

Other sizes 25 to 100 H.P. — Ball Bearing Hoists with Finger Tip Control. Biggest values, most advanced design on market.



**60' Jiffy Mast Plant**

Assemble in 3 sections on ground. Various combinations of bucket and hopper or platforms. Popular price.



PAVING EQUIPMENT

## The Jaeger Machine Co.

521 DUBLIN AVENUE

COLUMBUS, OHIO



TRUCK MIXERS

# FORD PRESENTS CAB-OVER-ENGINE DESIGN *to the* *Low-priced Truck Field*



**F**OR YEARS truck owners and operators have asked for a low-priced cab-over-engine unit. Ford now answers this demand. The Ford V-8 Cab-Over-Engine is here.

The Ford V-8 Cab-Over-Engine is of advanced design, yet it utilizes time-and-service-proved features of Ford construction. Every detail has been planned to take the greatest advantage of a short wheelbase to provide increased payload space.

But most important of all features to be found in these new units is Ford Economy. Owners and operators everywhere report that the Ford Truck does more work, in less time, at lower cost. The reason—because Ford has found the way to make extra cylinders mean extra economy as well as finer performance.

Examine the Ford V-8 Cab-Over-Engine Truck at your Ford dealer's today. Then arrange for an "on-the-job" test with your own driver and your own loads over your own routes. No cost.

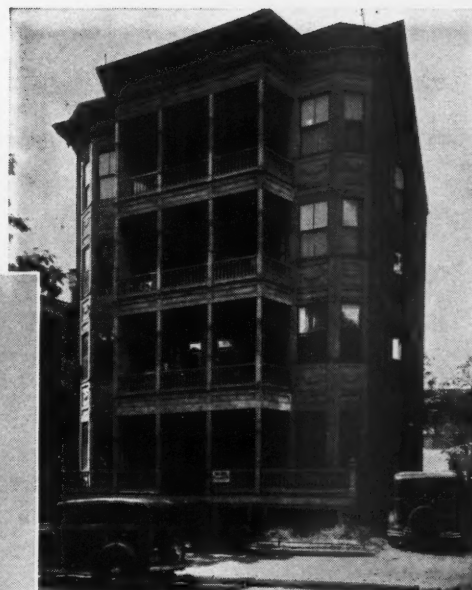
## FEATURES OF THE FORD V-8 CAB-OVER- ENGINE TRUCK

- ★ 101-inch and 134-inch wheel-bases.
- ★ 85-horsepower eight-cylinder engine.
- ★ Advanced design. Service-proved top-quality Ford engineering features.
- ★ Easy entrance to cab, wide door hinged at front.
- ★ Comfortable riding.
- ★ Easy steering.
- ★ Easy accessibility to engine.
- ★ Designed for convenient servicing.
- ★ Greater maneuverability in traffic.
- ★ Greatly increased payload space.
- ★ Increased view of road.
- ★ Decreased turning radius.
- ★ Time-and-money-saving Ford Engine and Parts Exchange Plan.

# FORD V-8 TRUCKS

MORE WORK IN LESS TIME AT LOWER COST ACCORDING TO OWNERS' RECORDS

# How to change an "Eyesore" into an *Asset*



*Atlas White stucco waved the wand in this Springfield, Mass., remodeling magic. Architect, Henry J. Tessier; General and mason contractors, J.G. Roy & Sons Company—both of Springfield.*



See how easily this ancient apartment structure was transformed from an ugly liability into an attractive, rentable building!

Cornice and front porches were removed, a simple cornice designed, and the front of the building covered with stucco made with Atlas White portland cement.

You doubtless have similar opportunities for profitable remodeling work. When figuring on such jobs, these are good facts to remember:

1. *White* portland cement stucco gives a building a fresh exterior.
2. It is permanent because it is a thin sturdy wall of concrete with the weather resistance and fire resistance of concrete.
3. It can be applied in any texture and any color.
4. Its cost is moderate and gives service that endures in any climate.

Universal Atlas Cement Co.  
(United States Steel Corporation  
Subsidiary), 208 South La Salle  
Street, Chicago.

**A FACTORY PREPARED STUCCO IS PREFERABLE**

S-13

STUCCO MADE WITH **Atlas White** PORTLAND CEMENT

# The Building Estimator's Reference Book

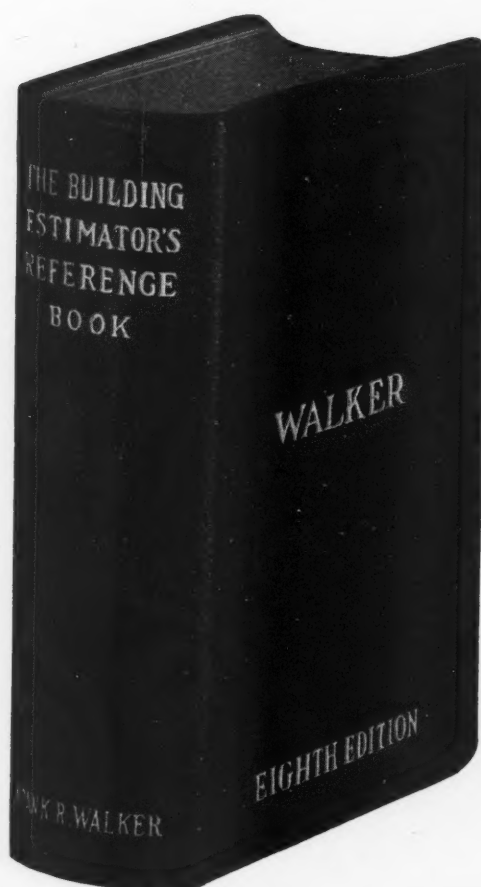
CONTAINING 1700 PAGES OF BRAND-NEW ESTIMATING AND COST DATA ON ALL THE NEW BUILDING MATERIALS AND METHODS DEVELOPED DURING THE PAST 6 YEARS. HERE IS INFORMATION THAT EVERY CONTRACTOR NEEDS TO KEEP ABREAST OF MODERN TIMES AND COMPETE FOR PRESENT DAY CONTRACTS.

Use *American Builder* "TruCost" estimates for accurate quantities, and Walker's "Building Estimator's Reference Book" for accurate labor costs and material prices. It contains complete detailed estimates on all classes of building construction, including everything from Excavating to Painters' Finish.

## COVERS

Excavating  
Concrete Foundations  
Reinforced Concrete  
Rough Carpentry and Timber Framing  
Millwork and Interior Finish  
Lathing and Plastering  
Painting and Decorating  
Glass and Glazing  
Structural Steel and Iron Work  
Masonry in all its Branches  
Sheet Metal and Duct Work  
Marble, Tile and Linoleum Floors  
Heating, Air Conditioning

AND HUNDREDS OF  
OTHER IMPORTANT  
SUBJECTS



## NEW ESTIMATING AND COST DATA ON

Concrete Joist Floors  
Glass Blocks  
Reinforced Brickwork as Laid in Earthquake Zones  
How to Frame a "Shrink-Proof, Crack-Free" House at the Cost of Ordinary Platform Framing  
Water and Dampproofing  
Ready-Mixed Concrete  
Concrete Admixtures  
Wallboard and Metal Trim  
Insulating Plank and Tile  
Rock Wool Insulation  
Sheet Foil Insulation  
Building Board, Flexible Insulation  
Built-up Roofing  
Modern Store Fronts

EVERYTHING FROM  
EXCAVATING TO  
PAINTER'S FINISH

## FILL OUT THIS GUARANTEED ORDER FORM

American Builder and Building Age,  
30 Church Street, New York, N.Y.

Enclosed find \$10 for which send me a copy of the New Eighth Edition of The Building Estimator's Reference Book, and a copy of The Vest Pocket Estimator FREE. If I do not find the books entirely satisfactory I may return them within 5 days of receipt and you are to refund my \$10.

Name .....

Address .....

City and State.....  
A.B. 8-38



## FREE

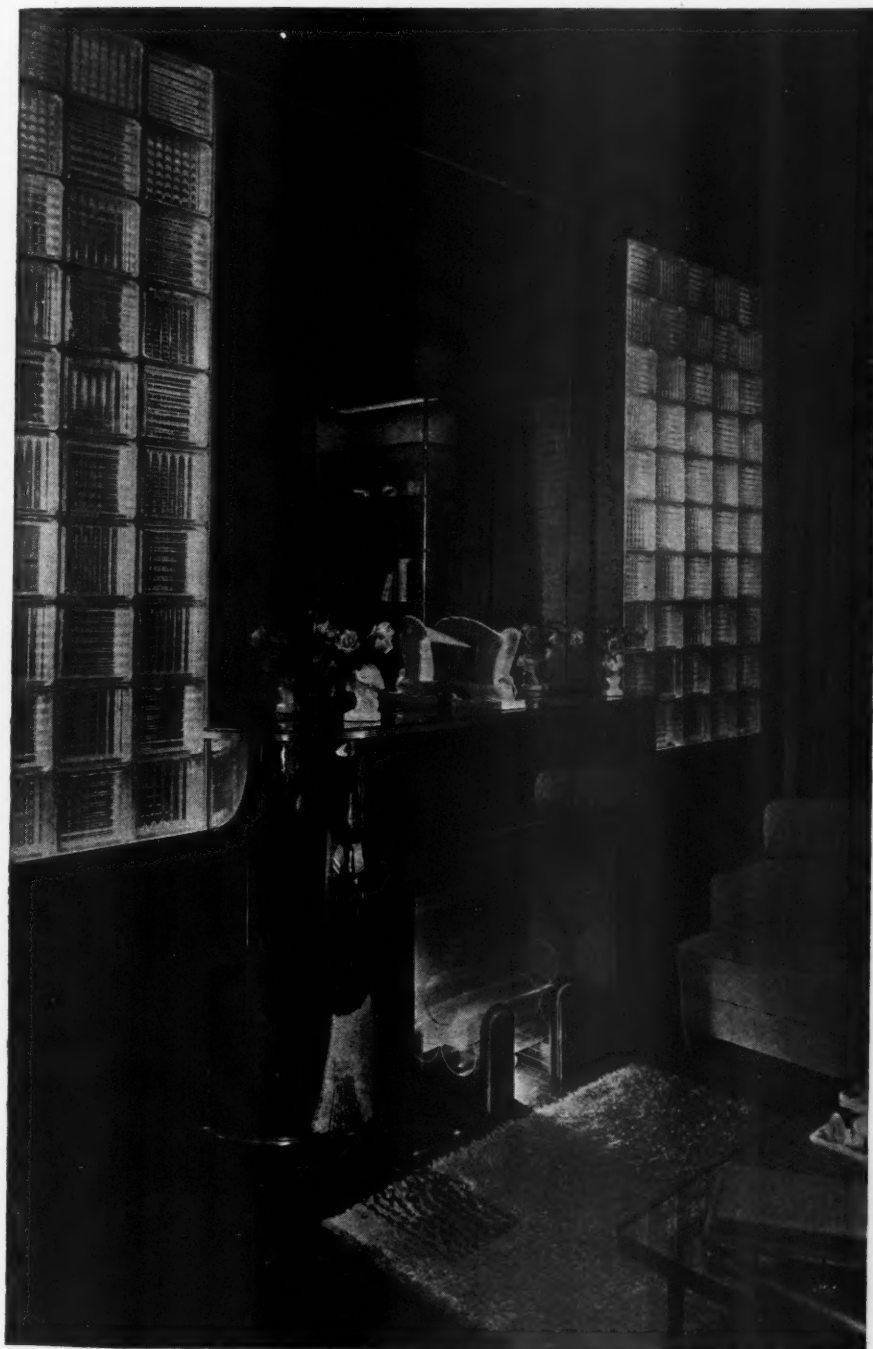
With Building Estimator's Reference Book

## The New Vest Pocket Estimator

This is one of the most popular little books contractors have ever used. Contains 220 pages of up-to-the-minute estimating and cost data in condensed tabular form. Fits in the vest pocket and can be instantly referred to on the job or in the office.

# Use PC GLASS BLOCKS *to build*

## Brighter... Better-Insulated Homes



HERE IS A splendid example of how PC Glass Blocks can add to the attractiveness and practical utility of a home. These good-looking panels of Argus pattern blocks provide heat and sound insulation, insure privacy and are easy to clean. Note that a panel of polished Carrara Structural Glass forms a base for each area of PC Glass Blocks.

Distributed by

**PITTSBURGH PLATE GLASS COMPANY**

and by W. P. Fuller & Co. on the Pacific Coast

IN PC Glass Blocks, the builder has at his disposal a material which combines a number of major advantages. These blocks transmit daylight generously, making rooms brighter, more cheerful, better-lighted. They provide the privacy which is so important in busy urban communities. They go far toward solving the problems of heat insulation... for a PC Glass Block panel permits only half as much heat loss as an equal area glazed in the usual fashion. Their use, therefore, assures lower heating costs.

Insulation against sound is a feature of PC Glass Block construction, too. PC panels effectively reduce noise, making for quieter, more secluded, and more livable homes. They also add tremendously to house appearance, both outside and in, with their gay, crystalline beauty.

These major advantages make PC Glass Blocks a building material as practical as it is good-looking. The strength, weather-proofness and durability of the blocks, their easy cleaning, and their non-absorbent qualities further recommend them. Send the coupon below for complete facts. It will bring you a useful booklet, absolutely free. PC Glass Blocks are manufactured by Pittsburgh Corning Corporation, also makers of Carrara Structural Glass.



Pittsburgh Corning Corporation,  
2343A Grant Bldg., Pittsburgh, Pa.

Please send me, without obligation, your new book of facts about PC Glass Blocks entitled "The Glass Age Arrives."

Name

Street

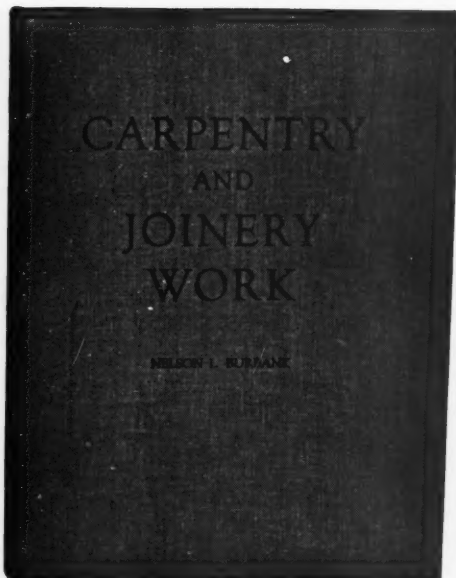
City  State

Second Edition

# CARPENTRY and JOINERY WORK

By Nelson L. Burbank

Formerly Instructor, Building Vocational High School, Cincinnati, Ohio



The new edition has been thoroughly revised.

The manuscript was carefully checked by a former contractor and ex-editor so that this book combines the practical outlook with the author's trade teaching experience. The cardinal principles of modern residential construction are set forth simply and logically with the aid of many photographs and line drawings. The Second Edition contains 90 revised pages with new illustrations and descriptions of new methods and materials.

The program of study as presented in this latest textbook for students of carpentry work involves class discussion, practical job work and related studies. These include Architectural Drawing, Plan Reading, Carpentry Mathematics, Business English, Applied Science, Civics and First Aid.

This book will be very useful to any man entering the home building field. Contractors can safely recommend

it to apprentices and rough carpenters who wish to improve their knowledge of the work. The complete index makes it useful as a general reference book.

## Chapter Headings

Tools and Equipment—Tool Boxes—House Plans—Excavations—Foundation Forms—Foundations—Sills—Girders—Floor Joists—Sub-Flooring—Outside Framed Walls—Inside Framed Walls—Plumbing Framed Work—Sheathing Walls—Ceiling Joists—Roof Framing—Roof Sheathing—Cornices—Roofing—Porch and Bay Framing—Exterior Wall Covering—Interior Wall Covering—Stairs—Interior Trim—Windows—Doors—Hardware—Closets and Shelving—Finish Flooring—Finishing—Index.

280 pages, illustrated, 8 1/2 x 11 inches. Cloth Bound, \$3.00.

## 369 Practical Job Pointers

A collection of many of the best "Job Kinks" which have been published in American Builder and Building Age. Each of these helpful time, labor and money-saving methods is illustrated with a line drawing. There are 76 pages of ingenious methods of doing work, 66 pages describing special tools and devices, and 54 pages of construction details and recommended methods. All are based upon actual experience. An index enables quick reference to a particular job hint and the book is pocket-size for carrying on the job.

192 pages, 275 illustrations, 4 1/2 x 8 1/2, paper binding, \$.75.

Send for the 1938 Supplement to the 1937 BOOK GUIDE, or both, if you do not have a copy of the BOOK GUIDE. *Free on request.*

## BOOK DEPARTMENT

**AMERICAN BUILDER AND BUILDING AGE**

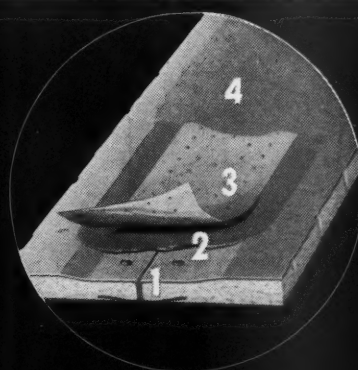
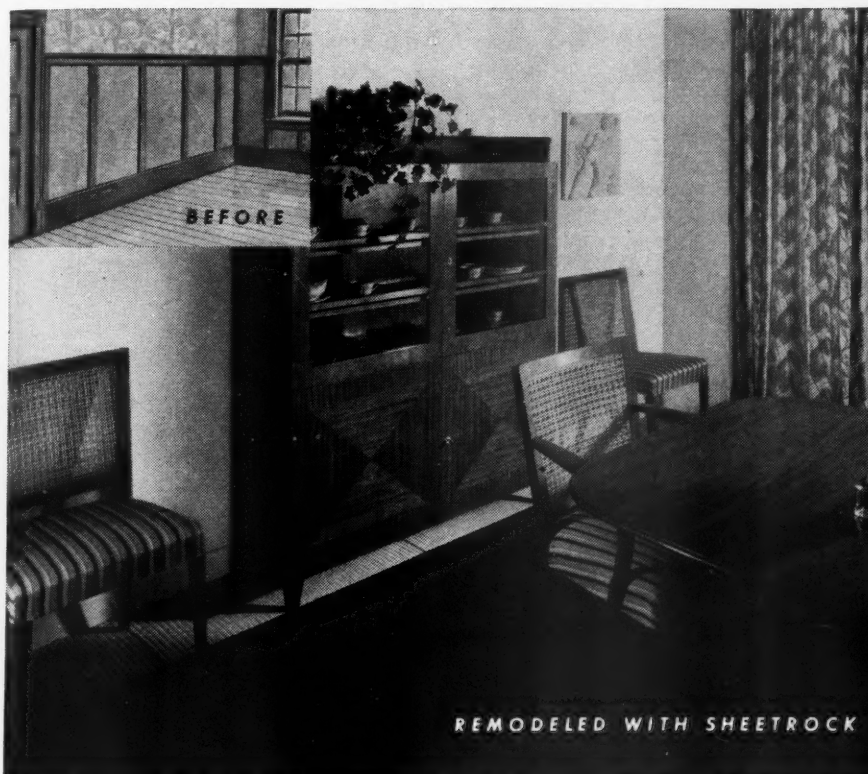
30 Church Street

New York, N. Y.

# Making Joints INVISIBLE

## with SHEETROCK and Perf-A-Tape

THE FIREPROOF WALLBOARD



### HERE'S HOW IT'S DONE

- 1 When sheets are nailed in place the recessed edge forms a channel at joints.
- 2 This channel is filled with a special cement, which is easily applied.
- 3 Perf-A-Tape, a patented, strong, perforated fiber tape with chamfered edges, is embedded in the cement.
- 4 Cement is applied over Perf-A-Tape, leveled and sandpapered evenly, completely concealing the joint and assuring a smooth surface for decoration.



### Creating an entirely new business in the Modernizing Market

Sounds like magic, doesn't it—making joints *invisible* in wallboard walls! Yet, the country over, hundreds of contractors just like yourself are landing remodeling job after remodeling job by being specialists in building walls of the new Recessed Edge Sheetrock\* and Perf-A-Tape\*.

You, too, can cash in on these remarkable new USG

modernizing products—Recessed Edge Sheetrock and Perf-A-Tape. With them you can erect good looking, smooth, durable walls on which any kind of decoration—paint, texturing, wallpaper—can be applied. And remember, *Sheetrock is the Fireproof Wallboard.*

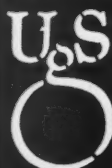
*If you haven't already used Recessed Edge Sheetrock and Perf-A-Tape on a remodeling job, by all means learn about it at once. Send today for your FREE copy of the big new Sheetrock book.*

## United States Gypsum Company

300 WEST ADAMS ST. CHICAGO, ILLINOIS

Sales Offices at:  
 Atlanta, Ga. • Baltimore, Md. • Birmingham, Ala.  
 Boston, Mass. • Buffalo, N. Y. • Cincinnati, Ohio  
 Cleveland, Ohio • Dallas, Tex. • Denver, Colo.  
 Detroit, Mich. • Houston, Tex. • Indianapolis, Ind.  
 Kansas City, Mo. • Los Angeles, Cal. • Milwaukee, Wis.  
 Minneapolis, Minn. • New York, N. Y. • Omaha, Neb.  
 Philadelphia, Pa. • Pittsburgh, Pa. • Portland, Ore.  
 St. Louis, Mo. • San Francisco, Cal. • Washington, D. C.

\*Registered trade-marks



UNITED STATES GYPSUM COMPANY  
 300 West Adams Street, Chicago, Illinois

Please send me the Sheetrock Book containing remodeling suggestions.

Name.....

Address.....

City.....State.....

AR-7

*Save your time—  
Make more money—*

laying floors of **PATTERNED HARDWOOD**

**IN A FEW HOURS**  
—a new floor without  
mess or inconvenience



● Bruce Finished Blocks cut hours off flooring jobs because they are ready to use as soon as they are laid. No sanding or finishing is required, since this is all done at the factory. Installation over wood or concrete is fast and simple. You can complete one job and then go on to another.

Contractors throughout the country are securing new, profitable business by specializing in laying Bruce Block Floors. This distinctive flooring is being widely used in residences, apartments, offices, stores, ballrooms, schools, etc. It is adapted to new building or remodeling. Every installation results in a satisfied customer and new prospects.

Send in the coupon for complete information on this modern hardwood flooring. See for yourself how easy and profitable it is to install Bruce Block Floors.

**E. L. BRUCE CO.**  
Memphis, Tenn.

E. L. BRUCE CO., Dept. AB-7, Memphis, Tenn.

- ☐ Please send me a copy of "Patterned Hardwood Floors for Lasting Beauty and Distinctive Decoration." ☐ Send me a sample of the Bruce Finished Block.

Name .....

Address .....

City ..... State .....

My lumber dealer is .....

Bruce Finished Blocks are available in all standard grades of Oak, Maple, Beech and Walnut.

This distinctive pattern shows how Light and Dark Finish Blocks may be alternated.

The economical "Arabesque" Grade is preferred by many for its natural beauty.

Samuel  
Lee, Jr.  
H. M.  
Clement  
Secretary  
Secretary

Subscription  
Possessors  
years, 1  
tries, 1  
\$10.00.  
H. E.  
30 Church

Member  
(A. B.)  
Circular